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MEDICAL EXPERIENCES IN JAPANESE CAPTIVITY

BY

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[WITH PHOTOGRAVURE PLATE]

The fruits of experience as prisoners of war in Japanese hands, though abundant, were exceedingly bitter. Herculean tasks were enforced upon semi-starved and enfeebled captives—for example, the construction of the Burma–Siam railway by slave labour with primitive hand tools. To medical personnel fell the scarcely less arduous task of clearing the Augean stables of sickness. The crude slave hovels used for the accommodation of prisoners were euphemistically termed "hospitals" when allotted to the sick, and were provided with some slender medical staff. During the days of darkest savagery they were little more than crowded pest-houses where sick were conveniently segregated, though by no means allowed to die in peace.

I have been asked to record briefly some salient impressions of three and a half years of imprisonment in Java and Siam, involving prisoner-of-war command of a number of camps and hospitals, including railway construction camps. The medical problems of the scattered prisoner-of-war groups in the Far East, and the struggles of the medical services against great odds, are of historical interest. The circumstances militated against research or far-reaching discovery but sharpened the unaided senses to greater clinical acuity and necessitated resource and ingenuity of a high degree. It is obvious that many prisoners of war will suffer for the remainder of their lives from disabilities related to their grim ordeal. Those who witnessed their fortitude and unconquerable spirit under conditions of great suffering, slow starvation, and physical wretchedness hope that their disabilities will be fully comprehended and will receive generous consideration.

Conquest of Java

In Java, as in other conquered regions, medical personnel together with sick and wounded shared in the general programme of attrition designed to teach a sharp lesson to "criminals" and "rabble" who had dared to oppose the Japanese Army. All the inmates of an Allied general hospital under my command were ejected at a few hours' notice, and the majority forcibly marched to a fantastically overcrowded native gaol with negligible medical arrangements, where calculated humiliation, gross under-feeding, and savage regimentation were the daily routine.

Only a few medical stores, widely dispersed and concealed, escaped confiscation. Defiance of international conventions was emphasized by the confiscation of Red Cross brassards, along with badges of rank, unit or service ribbons, decorations, etc. Under compulsion all Red Cross markings were obliterated. Mass violence and beatings and some untidy public executions enforced obedience, under vigorous protest. Uniform clipping of the hair to the scalp was required, and the extravagant mass "salutations" enforced by the humblest of Japanese soldiers produced spectacles not devoid of Gilbertian humour. Medical officers and padres spent considerable time and energy in the task of instructing in Japanese drill and ceremony. There was some alleviation of the harshness of treatment in the British P.O.W. camp under my administration at Bandoeng, where for a few months the prisoners carried on highly organized educational and recreational activity in the teeth of difficulties and misunderstandings.

Malnutrition and deficiency diseases were rife within six months, pellagra being excessively common and associated in approximately one-third of all troops with distressing burning of the feet. The ration at this time amounted to about 2,000 calories daily. While much more adequate than that in some later camps, it consisted largely of low-grade rice or dried potatoes, and was thus markedly deficient in protein, fats, and vitamins, especially of the B complex. The Japanese paid little heed to protests, carefully documented requests, or demonstrations of cases, but following the official acceptance of the captives as "prisoners of war" meagre pay for work was introduced. This pay together with some fortunate clandestine negotiation for money on credit enabled us to augment the diet of the sick with purchased foodstuffs according to need.

The Burma–Siam Railway

Late in 1942 the movement of Allied prisoners to Lower Burma and Siam commenced. Soon some 60,000 captives and a larger force of Asiatic coolies were given the gigantic task of cleaving a railway through 400 kilometres of jungle-clothed mountains and oppressive valleys between Thanbyuzayat (Burma) and Bampong (Siam). By the end of 1943 the main task was completed by the enfeebled remnant of the decimated force. Some 15,000 prisoners together with uncounted scores of thousands of Asiatic coolies had perished. While this major tragedy was largely due to calculated official brutality and inhumanity, Japanese medical officers contributed in lending what zeal they possessed to the support of medical enormity in search of further labourers, rather than in a co-ordinated medical plan of evacuation, hospital services, and supply of medical stores.

Indiscriminate treatment of prisoners led to my being placed in command of a working force of Java captives transferred as packed human freight in the holds of a tramp to Singapore, and subsequently by rail for four days in box-trucks to Siam, where in due course they marched into the Konyu–Hintok section of the line in dense jungle about the Kwa-Noi river. Some six months of command of working camps mixed with endless medical work and peripatetic surgery was followed by experience of command of jungle hospitals, including Kinsayok, Tarsau, and Chungkai, before I was transferred in June, 1944, with large numbers of sick of the Siam force to Nakom Patom. There I enjoyed the privilege of working under Lieut.-Col. A. E. Coates, A.A.M.C., as O.C. surgical section of this large hospital, devoted to men still broken in health by the railway construction in Burma and Siam. The grimmest battle for the lives of men had already been fought in the crudity of jungle areas, and the attitude of the Japanese left little doubt that improved conditions bore some relationship to the changed state of the war and to world knowledge of the treatment of prisoners.

Working Camps

During railway construction men worked under savage pressure up to sixteen hours a day for months without rest, so that they rarely saw their squalid huts and tents in daylight. Amid thorny jungle and rotting corruption, with ceaseless monsoon rain lashing their bodies and soaking their miserable accommodation, large numbers were soon bootless, with practically no bedding.

and reduced to rags about their loins. The heat was in general excessive, and well-nigh intolerable to bare feet in rock cuttings, but the greatest load on men's spirits was the pouring monsoon rain, converting the whole area into a quagmire of evil-smelling mud.

Pellagra diarrhoea, irritable bladders, and massed overcrowding interrupted rest, and the urge was often uncontrollable as men floundered out into darkness, rain, and mud. Hunger, food deficiency diseases, malaria, dysentery, ulcers, and skin sepsis, and extreme exhaustion were woven into a dull fabric of suffering rent here and there by sharp outbreaks of cholera. Whatever reserves of physical strength or spirit a man might possess were in the long run exploited, so that the stronger suffered longer, only to pay the same relentless tribute in loss of life and broken health.

Apart from some capricious inoculation measures, preventive medicine, hygiene, and sanitation were negligible. Men and tools were grudgingly spared for the most primitive sanitary measures. Such materials as antimalarial oil or chloride of lime were absent or pathetically scarce. Often there were insufficient containers to supply boiled water. Until the belated supply of limited American Red Cross stores in mid-1944, medical supplies other than quinine were farcical. A typical monthly issue for a thousand men, mostly sick, consisted of 6 to 12 bandages, a small piece of gauze or cloth, 1 or 2 ounces of spirit or iodine solution, and a few dozen assorted tablets of dubious value. Non-expendable stores such as instruments and ward equipment, though freely confiscated in the early months, were afterwards only possessed by cunning or ingenuity, since no issues were made. Allied medical personnel were distributed with scant regard to either incidence of sickness or qualifications on a scale of about 1% of strength—doctors and orderlies combined—for all purposes. Where by faulty distribution the number exceeded this slender provision, as in Konyu and Hintok camps, they were compelled to do routine manual work and the sick were deprived of their services.

"Most Shameful Deed"

As the working force deteriorated under semi-starvation, diseases, and illimitable exhaustion, ferocious pressure was exerted to secure from sick and dying men increased fortitude in the Japanese Imperial cause. As sickness was regarded as a crime, the sick were given no pay and a reduced ration scale. (Col. Nakomura on assuming command of prisoners of war in Siam in June, 1943: "Those who fail in charge by lack of health is regarded in Japanese Army as most shameful deed.")

Relentless insistence upon fixed figures of workmen daily, if defied, led to the sick being turned out of hospital with indiscriminate violence. Sick parades were endless, since the wretched condition of the men required daily assessment and comparison. They dragged in up to midnight or beyond, and attendance was again needed at works parades before dawn. Japanese N.C.O.s and privates frequently overruled medical officers and cut short argument with violence.

In the Hintok area works parades were a deplorable spectacle, featuring scores of men tottering with the support of sticks, or even being carried out bodily to meet fixed figures. Men unable to stand were carried, to work in a lying or sitting position. During the grimmer months of railway construction the sick were deliberately persecuted by works supervisors. For example, men with horribly festering bare feet were forced to work on sharp rocks or in thorny jungle hauling logs; disabling ulcers were struck or kicked; those collapsing were savagely handled; and sufferers from diarrhoea and dysentery were compelled to foul themselves working.

The engineer officer of this area, Lieut. Hirota, led his men in ferocity by personal example, and on occasion flogging of the sick was followed by their demise. Lieut. Osuki, P.O.W. camp commander, stated that he did not care if sick men died, since "working percentage better." Lieut.-Col. Ishii, in charge of 13,000 prisoners, when shown emaciated dysentery sufferers devoid of drugs, commented on the treatment by no food for two to three days with loud laughter and the retort: "In future no food one week, better!" The pungent protests of medical officers against these conditions need hardly be instanced. Capricious evacuations of sick were by casual hitch-hiking on passing lorries or barges. The weak supported or carried the weaker. Frequently days were spent in transit with exposure and little food. Barges arrived at jungle hospitals with both the quick and the dead in the stench of gangrene and dysentery.

Jungle Hospitals

Typical of early base hospitals heroically evolved under the greatest difficulties in Burma were Thanbyuzayat, Lieut.-Col. T. Hamilton, A.A.M.C.; and 55-Kilo hospital, Lieut.-Col. A. E. Coates, A.A.M.C. In Siam, Tarsau, Lieut.-Col. W. G. Harvey, R.A.M.C.; Takanoun, Major T. M. Pemberton, R.A.M.C.; Chungkai, Majors Reed, R.A.M.C., D. Black, I.M.S., and Lieut.-Col. J. St. C. Barrett, R.A.M.C.; Kanburi, Lieut.-Col. J. Malcolm, R.A.M.C.; Tamarkan, Major A. A. Moon, A.A.M.C.; and Non Pladuk, Major Smythe, R.A.M.C.

The conditions at Tarsau and Chungkai hospitals at the time I was first associated with them are illustrative. Each contained a constant population of approximately 2,500 very sick men as a citadel within a jungle city of sickness. The sick lay massed together on bamboo staging in decrepit collapsing huts. Bedding and hospital utensils were largely non-existent. No instruments and very few medicines were supplied by the Japanese. Lack of tools, materials, and fit men combined with overcrowding to create a nauseating lack of hygiene. Bugs, lice, and almost universal scabies infection produced minor torments and florid skin sepsis. Men were too weak to keep themselves clean, and there were few orderlies, or even containers for water.

Table I.—*Chungkai P.O.W. Hospital Statistics*

Diseases	1943			1944		
	Total Treated	Died	Case Mortality Rate %	Total Treated	Died	Case Mortality Rate %
Malaria	3,336	67	2·0	1,753	13	0·74
N.Y.D.	374	—	Nil	142	—	—
Bacillary dysentery	734	129	17·5	139	2	1·44
Amoebic dysentery	1,309	266	20·3	1,113	46	4·13
Enteritis	565	19	1·6	414	12	2·92
Cholera	134	54	40·3	8	—	—
Diphtheria	88	14	15·9	1	—	—
Lobar pneumonia	26	23	88·5	13	6	46·15
Bronchopneumonia	32	25	78·1	6	3	50·0
Bronchitis	32	—	Nil	47	—	—
Avitaminosis (mixed)	774	257	34·5	397	61	15·36
Pellagra	189	110	58·2	62	10	16·1
Beriberi	335	170	50·7	100	11	11·0
Tropical ulcer	1,353	37	2·7	1,129	—	—
Other skin diseases	851	—	Nil	674	—	—
All other diseases	1,496	89	5·9	795	24	3·02
Grand total	11,572	1,237	10·7	6,793	188	2·70

The condition of tropical ulcer patients was pitiable, and these wards stank of the hospital gangrene of pre-Listerian days. Rags, paper, leaves, and locally picked kapok and cotton were employed as dressings. The blowflies hanging in clouds about the patients produced maggot infections with far from benign effect. Dysentery and avitaminosis wards were scarcely less distressing. Some crude operating and pathological facilities had arisen from P.O.W. enterprise. With the easing in the intolerable pressure for workmen following the completion of the railway, more hands were available to help the sick. In the teeth of almost insuperable difficulties, these crude hospitals were equipped, financed, and carried on to signal triumphs almost entirely from P.O.W. resources. Discipline, supremely high morale, and the pooling of resources in foodstuffs, money, materials, and human ability were even more important than purely medical treatment. A duck's egg daily might be all that was needed to turn the scales of a man's life. Herculean labours improved sanitation and accommodation. Patients were trained as medical orderlies, others were employed in the mass production of improvised equipment, even if they were only able to whittle with a knife on their beds. Sick-welfare money from various national and unit sources was directed into a common pool, and used with the utmost economy in a planned series of standard special diets, or in the clandestine purchase of essential drugs from the Siamese. For example, at Chungkai from January to April of 1944 we raised 38,000 dollars from prisoners' meagre resources, largely from the officers' pay of 30 dollars a month. (On capitulation of the Japanese the rate of exchange was 60 dollars to one English

pound.) In addition, friendly sources outside contributed 3,000 dollars a month. Emetine, iodoform, and other drugs were obtained by the risky venture of selling Nipponese quinine. Emetine cost 35 dollars for 1 grain (65 mg.), and iodoform for tropical ulcers several hundred dollars a bottle.

The relationship of equipment to special problems was well illustrated by the great fall in septic cross-infection after the introduction of a rigid "forceps" technique, employing large irrigating cans and small portable sterilizers, made from the mess-tins of dead men and heated by charcoal stoves devised from biscuit tins and mud. Even this simple equipment was extremely hard to obtain, and the striking benefits of mass disinfection and scabies treatment involved stealing petrol drums to make steam disinfectors. Intensive surgical measures were employed to drain pus, remove sequestra, and graft raw areas; amputations were performed where necessary. The steep fall in mortality at this stage was most gratifying.

Nakom Patom P.O.W. Hospital

This huge hospital situated on the paddy-fields some twenty miles (32 km.) from Bangkok contained as many as 8,000 sick during its most active period. Little was provided for prisoners other than the buildings and some Red Cross stores, but with more static conditions, and comparatively greater material resources for improvisation, the scope of medical work was made to compare with that of a large civilian hospital. Had even the crude facilities of this hospital been made available at an earlier date, great loss of life might have been avoided. Pin-pricking regimentation and constant interference with medical officers and sick, day and night, made the work of the hospital very difficult, and parties of sick were constantly being transferred in the teeth of medical opposition.

Isolated parties transferred in this fashion were employed in railway maintenance, road construction, and bridge repair in areas harassed by Allied bombing, and some suffered terrible experiences recalling the tragic fate of "H" and "F" forces during railway construction. An epic story was a six-weeks march of 800 British soldiers for some 600 km. (375 miles) from Nakom Nyak to Pitsanloke carrying their sick on rice-sack stretchers. Due to the devoted work of the medical officers, Capt. C. J. Poh, S.S.U.F., and Capt. T. Brereton, A.A.M.C., only three died on the march.

Records and Statistics

All the diseases of the male adult were encountered, and in addition numerous tropical diseases, even those as remote from ordinary experience as yaws and leprosy. The main diseases are shown in tabular form. Chungkai P.O.W. hospital statistics (Table I), kept by Major A. L. Dunlop, R.A.M.C., are self-explanatory. Where multiple diseases were present only the main disease on admission was recorded. Australian figures (Table II) are taken for my seven working camps, since the records I retain of other nationals are less complete. The average camp population from which the Australian casualties quoted were drawn was approximately 1,000. Usually two medical officers and six to eight medical orderlies were available.

Malaria

In the absence of adequate clothing, bedding, and mosquito nets, in jungle areas where there were debilitated troops and negligible larval and mosquito control, the disease was almost universal. B.T. infections predominated over M.T. and showed such phenomenal recurrence rates as twenty attacks in a year. Suppressive quinine in a dosage of 3 to 6 gr. (0.2 to 0.4 g.) daily in my experience was given too sporadically to have noticeable effect.

Blackwater fever was not common—e.g., a total of 17 cases at Nakom Patom among thousands of malarial subjects enduring repeated attacks. Cerebral malaria was not infrequent, and, with no ampoules of quinine suitable for injection, sterile solutions were made from any quinine available. I found Howards' 5-gr. tablets of quinine hydrochloride very effective given intravenously in a dosage of 10 gr. (0.65 g.).

TABLE II.—*Australian Patients Admitted to Author's Working-camp Hospitals*
June, 1942 to October, 1943

Camp	Malaria	Dysentery	Enteritis	Cholera	Diphtheria	Pneumonia	Bronchitis	Avitaminosis and Malnutrition	Injuries	Tropical Ulcers	Other Skin Diseases	Other Diseases	Totals	Deaths
Bandoeng, Java (June 14–Nov. 7, 1942)	37	129	7	—	—	2	2	17	8	3	25	58	288	1
Makosura, Java (Nov. 7, 1942–Jan. 4, 1943)	14	28	1	—	—	—	2	18	1	2	20	27	113	—
Changi, Singapore, south area (Jan. 7–June 20, 1943)	7	29	—	—	—	—	—	38	6	1	12	16	109	—
Konyu (Jan. 25–Mar. 12, 1943)	166	153	21	—	—	—	3	5	5	7	12	18	392	—
Hintok, Mountain Camp (Mar. 13–Aug. 23, 1943)	916	558	340	93	11	18	38	194	113	209	221	171	2,882	57
Hintok, River Camp (July 20–Sept. 18, 1943)	590	98	56	57	—	1	4	78	38	104	213	95	1,334	25
Kinsayok (Sept. 10–Oct. 23, 1943)	288	17	22	—	—	1	—	2	26	49	31	10	446	—
Totals	2,018	1,014	447	150	11	22	49	352	197	375	534	395	5,664	83
Deaths	—	10	—	63	—	1	—	3	1	—	—	5	83	

Notes.—1. Most cases of enteritis were of pellagrous origin. 2. The figures bear little relationship to total disease, since almost all troops worked through illness, and malaria and pellagra were almost universal. 3. Where several diseases were coexistent only the principal one was recorded. 4. Avitaminosis and malnutrition column: 50% were serious pellagra cases, the remainder cases of protein oedema and beriberi. 5. The low death rate at this time was quite exceptional, and is in large measure due to the fact that most of these troops were seasoned Middle East veterans of very fine physique. Large numbers, however, died at a later date in base hospitals.

Malnutrition and Avitaminosis

"Vitamins are luxuries," was the answer of a Japanese medical officer, Capt. Novosawa, to a request for an increase. Pellagra was the most common disorder, and exerted a sinister influence on the course of other diseases. The early symptoms of pellagra appeared after a few months of imprisonment—notably angular stomatitis, glossitis, pigmentary changes, and dry scaly skin. Scrotal dermatitis with erythema and loss of rugae rapidly progressed to exudation and scaly crusting. "Burning feet," much in evidence after six months, gave great distress at night, the sensation being most marked in the ball of the foot and passing forward to the toes. In some the legs and hands were affected. The circulation in the feet was excellent, but free sweating gave them a clammy feeling. The deep reflexes were hyperactive, and some patients had knee and ankle clonus. Rare cases progressed to spastic diplegia. Amblyopia was seen at the same time as the "burning feet," and occasionally both conditions occurred in the same case.

Later experience showed the rapid response of scrotal dermatitis and most mouth lesions to riboflavin, 6 to 8 mg. daily for a few days. Nicotinic acid or nikethamide was effective for other symptoms, except the amblyopia. In my experience the diarrhoea associated with pellagra was not very evident until the second year of prisoner-of-war life, when it became common and distressingly uncontrollable. Mental derangement was seldom marked, though in the terminal phase some cases showed extreme mental apathy and evinced difficulty in swallowing any food, particularly rice.

Nutritional oedema or famine oedema was excessively common, some soldiers becoming horribly bloated. In severe cases alimentary absorption seemed poor, and deterioration continued despite large numbers of eggs daily. Beriberi occurred in all forms, though in some instances it was confused with famine oedema. Scurvy and frank vitamin A deficiency were uncommon.

The basis of these disorders will be evident from the average ration recorded at Hintok camp in March, 1943. (This particular ration is by no means indicative of lower levels.)

Average issue per man per day: sugar 16 g., salt 10 g., fresh vegetables (mostly Chinese radish) 23 g., dried vegetables 6 g., meat 16.5 g., dried fish 26.5 g., oil of coconut 3 g., rice 600 g. (poor quality, some musty and almost uneatable).

Many sources of vitamins were tried in the absence of vitamin concentrates, but none was so effective as fresh foodstuffs obtained by money or credit. The whole question of a man's survival frequently hinged on the provision of money from prisoners' meagre resources, and on purchase facilities. Fresh ducks' eggs and the *katchang idjoe* bean (a lentil favoured by the Dutch) were excellent for all purposes. Meat was more expensive ; yeast excellent but difficult to produce economically in concentrated form. Grass extracts were freely employed, but suitable grass was rare in the jungle. Jungle "spinach" was popular. The supply of ducks' eggs for purchase, always hazardous in the jungle, was a major consideration in sustaining life in Siam. Blood transfusions later became a valuable measure in the worst cases of malnutrition, and under all circumstances there was no dearth of volunteer donors.

Cholera

The severe outbreaks of cholera were due to squalid conditions and association with Asiatic coolies, who contaminated water supplies and camp areas. Water sterilization often presented great difficulties. The Japanese showed terror of the disease, and frequently compelled the patients to be attended in appallingly unsuitable jungle sites with little shelter—in the hope they would die quickly. One notorious case where a cholera sufferer was shot by Japanese order illustrates this attitude.

Typical cases showed dramatic prostration, with copious rice-water stools, vomiting, husky voice, cramps, ringing in the ears, weakness, and feebleness. As sterile saline and disinfectants were not supplied, many courageous improvisations were made, particularly for the replacement of fluids in the algid phase. Saline was prepared from kitchen salt and spring, river, or rain water distilled in curiously designed stills. In one instance a medical officer employed a drilled bamboo thorn as an improvised cannula, and on occasion the risk was taken of administering saline with boiled and not distilled water. The most severe epidemic I encountered was one with which Major E. L. Corlette, A.A.M.C., and I were concerned at Hintok, where in our own immediate camp of 1,000 men, 150 showed obvious infection, and there were 63 deaths. Hundreds of deaths occurred in the neighbourhood. The cases were nursed under leaking rags of tents, in an appalling morass in the jungle. Some early cases were given intraperitoneal saline injections of several pints. Three stills were hurriedly improvised from lengths of a stolen petrol pipe surrounded by bamboo jackets, and irrigated by water brought in bamboo pipes from a spring. Some 120 pints (68 l.) were produced and given daily through a number of continuous saline sets manufactured from such oddments as our stethoscopes, bamboo tubing, saki bottles, etc. In cases with extreme fluid loss as much as 20 pints (11 l.) were given in twenty-four hours. Saline was very effective in the algid phase, but numbers passed into the stage of reaction (typhoidal state), rosy flush, and fever, or succumbed to other illnesses related to their gross debility.

Hypertonic saline was seldom employed owing to the crude clinical facilities. Capt. J. Markovitch, R.A.M.C., reported favourably on the use of double-strength saline. I found that potassium permanganate, in the usual 2-gr. (0.13 g.) dose as a pill wrapped in a cigarette paper, did not give relief commensurate with the burning discomfort caused.

Dysentery

Despite the appalling mortality and morbidity caused by this disease the Japanese refused to recognize its presence and compelled us to refer to it officially as "colitis," or still more vaguely as "other conditions." Amoebic dysentery predominated, but emetine and other specifics were not supplied by the Japanese. The terrible severity of amoebic infections and the great shortage of emetine presented problems dealt with in a separate paper (1946). Liver abscess was an infrequent complication, which under the circumstances required open drainage by the subcostal or transthoracic approach.

Tropical Ulcer

This disease was highly prevalent in jungle areas among famished fever-ridden subjects exposed to blows and trauma. A distressing feature was massive spreading gangrene with acute exacerbations of spread. Frequently the deep fascia was penetrated and there followed gross involvement of bone, joints, muscle, tendon, vessels, and nerves. The type of evacuation and the practice of flooding ill-equipped hovels with these patients were disastrous. The base hospital sections receiving them became cesspools of "hospital gangrene." Waves of virulence spread about the wards, infecting other wounds—e.g., incisions for suppurative bursitis, septic scabetic lesions, and healing ulcers.

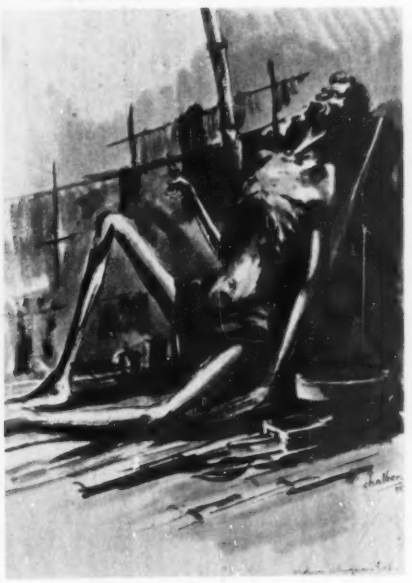
Ulcers were often multiple ; three men seen in association with Capt. J. McConachie, R.A.M.C., were dying in agony from large ulcers arising from minor skin lesions all over the body and limbs. The pain, of which I have had personal experience, was very severe and caused muscle spasm, so that the lower limb frequently contracted with flexed knee and dropped foot. Natural healing, where the outcome was favourable, took months to years, and often resulted in severe deformity. Mild antiseptics were useless, and for effective action reagents were destructive to normal tissues—e.g., hyd. perchlor. solution 1 in 50, saturated solution of potassium permanganate, strong copper sulphate solution, pure phenol or lysol.

The best measure was removal of all gangrenous tissue by excision and curettage, followed by the application of pure phenol or lysol and a light sprinkle of iodoform powder. The latter was a specific for tropical infection, often effective even with such economy as 1 in 20 dilution. The distressing pain disappeared and the dressing could be left for days ; the resulting granulating area was then skin-grafted. With this procedure, early cases could be healed in a month without deformity. The Japanese did not supply iodoform, but it could be bought in small quantities at high prices from the Siamese. It was the most economical of all purchased drugs, and the sight of it brought a glad smile to sufferers.

Many hundreds of men endured the agony of curettage of ulcers necessarily without anaesthesia. Necrosed tendon and muscle required wide incisions in fascial planes and formal excision. Huge sequestra were extracted when they loosened, some constituting the greater part of the shaft of the tibia. At Nakom Patom sequestrectomy was accompanied by large "saucerizing" procedures. Amputation was often necessary to save life, and some patients begged for it, despite the crude knives and butchers' saws employed. Immediate mortality rates were surprisingly good—e.g., under 10%—but there were associated gross nutritional disorders often evidenced by running diarrhoea and famine oedema. Further depletion of body protein occurred with the copious discharges. Ultimately about 50% of amputation cases succumbed, many of them after good healing. Blood transfusion was a valuable measure. When hostilities ceased, 170 amputation cases surviving at Nakom Patom, including two with bilateral amputations, were already provided with useful artificial limbs.

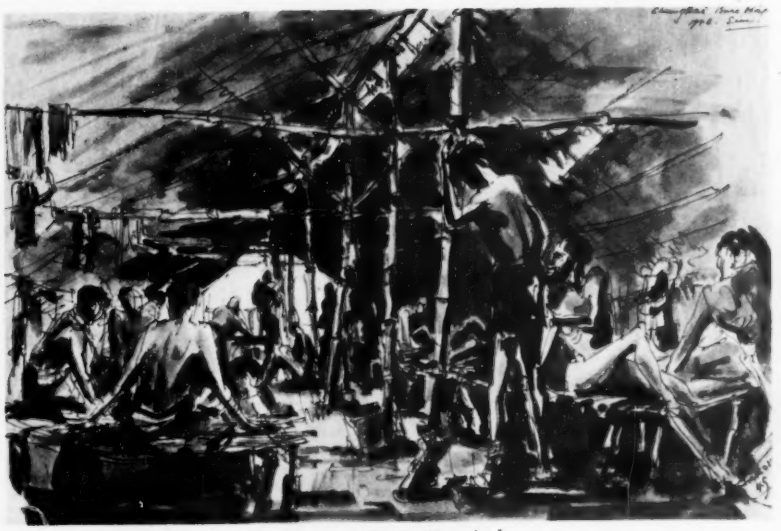
MEDICAL EXPERIENCES IN JAPANESE CAPTIVITY—E. E. DUNLOP

Dysentery

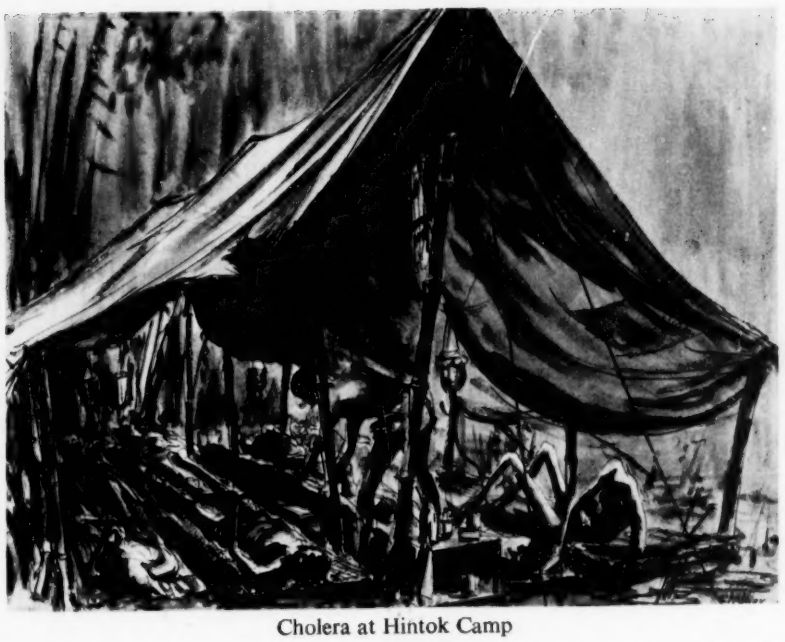


Cholera

Konya Camp



Chungkai Base Hospital



Cholera at Hintok Camp

Working Party

The drawings reproduced here were prepared by Gunner J. C. CHALKER

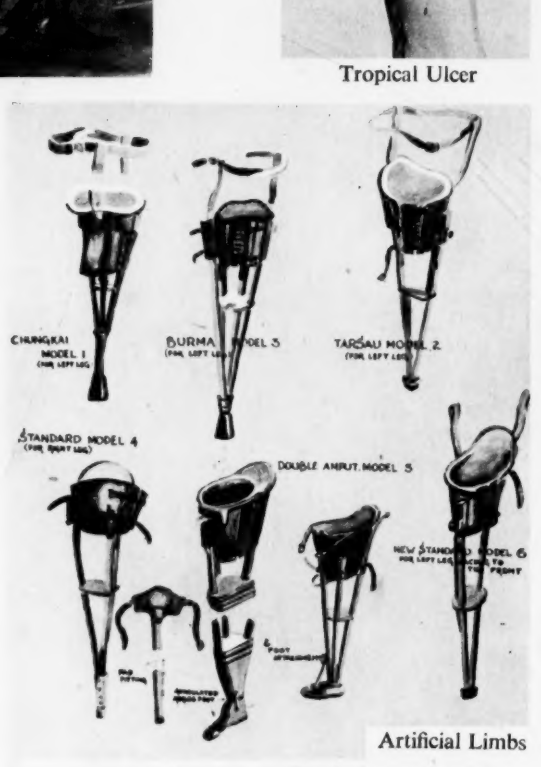
New arrivals at Chungkai

Tropical Ulcer

Jungle Orthopædic Bed

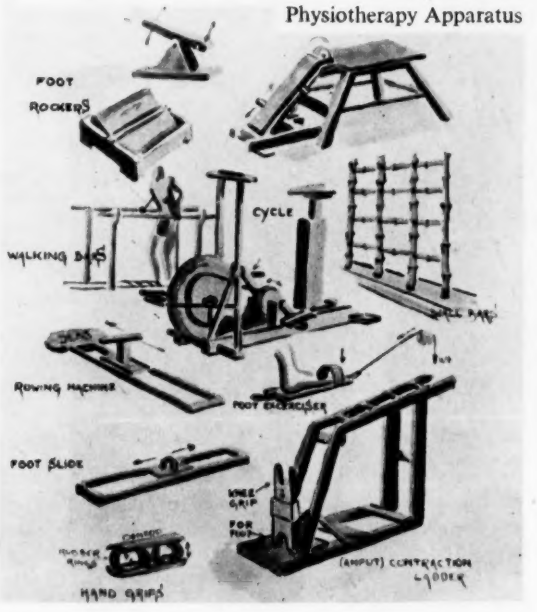
Improvised Utensils

BED PAN
1 GAL TIN LET INTO SOAP BOX
SECTION OF BAMBOO USED AS WATER CARRIER
COCONUT SHELL SET IN TIN LID AS BOWL
CHARCOAL BURNER MADE FROM BISCUIT TIN BUILT IN WITH CLAY
BASE OF FOLDED TIN
MESS TIN & STERILIZER
METAL TRAY FROM CORNED TIN
BROOM ENTIRELY OF BAMBOO
GLASS HAND LAMP
COCONUT OIL
4 GAL CONTAINER, FROM OLD LEAKY COCONUT OIL TIN
PNEUMONIA JACKET MADE FROM BLANKET
KEROSINE HAND LAMP
PILLOW AND MATTRESS OF RUSH
MUG FROM MILK TINS
BAMBOO KNIFE & NEEDLE
URINE BOTTLE OF BAMBOO
LADLE (1½ PINT)
FUNNEL
ADJUSTABLE LEG REST
LATRINE FRAMES
LATRINE LID
INSTRUMENT BOX OF BAMBOO
IRRIGATION APPARATUS
1 GAL LADLE
4 GAL CONTAINER, CONV. FOR WASH BOWL
VEGETABLE SCRAPER
HANGING OIL LAMP



Artificial Limbs

Physiotherapy Apparatus



Some hundreds of skin grafts in the hospitals with which I was associated showed gratifying results in healing and lessened deformity, compensating for great difficulties in arranging dressings and suitable firm pressure over graft areas. I found that a light dust of iodoform powder over the graft area gave considerable protection against recurrence of tropical infection.

Scabies and Infected Skin Lesions

In some hospitals over 90% of the population had scabies, many with florid skin sepsis. Mass treatment by wards was required, using improvised steam disinfectors for personal effects. Sulphur was largely purchased in a crude form. A very economical suspension with a minimum of oil was made by means of ox bile.

The feet of workmen employed without boots and constantly in mud and water became cruelly inflamed with gross septic tinea. Cure was difficult without rest.

General Points

Mental disorders were surprisingly infrequent, and neurosis uncommon among Anglo-Saxon prisoners. The hostility of the Japanese to the sick made their lot so unattractive that possibly a source of conflict was removed. Notwithstanding this fact, in well-led camps a heroic feature was the routine way men in the extremity of fatigue and debility lined up to take the place or bear the burden of those in worse case. A minor outbreak of hysterical palsies in the last year of imprisonment was predominantly among Netherlands East Indies soldiers. Suicide was uncommon and I personally know of only six cases. Possibly owing to lack of all privacy, and to the debilitating diet, sexual perversion was very inconspicuous. Though some men inevitably became morose and irritable, and quarrels arose, sanity, good humour, and optimism were predominant.

Ingeniously hidden wireless sets and news translations helped in sustaining morale, as did the organization of recreation, entertainment, and mental activities. Astonishing stage effects were obtained with rice matting, bamboos, rags of mosquito netting, etc., and symphonies were orchestrated from memory and played with impressive effect on instruments of great ingenuity. Fertile minds invented most diverting games. Formal religion appeared to have no enhanced appeal in camps of sickness and death. The maintenance of strict discipline was the greatest factor in preserving life and maintaining morale, and this was never questioned where officers set an example in unselfish devotion to duty.

Jungle Surgery

The Japanese with characteristic interest in the dramatic and sadistic appeared to find a surgical operation a "good show." Shortly after arriving in the dense jungle in the Konyu area I performed a successful night operation for a perforated duodenal ulcer—on a hurriedly constructed bamboo table, lit by a bonfire and a borrowed hurricane lamp. Following this event I was freely allowed to visit other camps to perform operations, and incidentally effect medical and other liaison. In these areas only emergency operations were performed, such as those for acute abdominal lesions, wounds, and gross sepsis, and usually in the open or under a large mosquito net. Many penetrating wounds were seen from brittle fragments of steel drills (e.g., necessitating excision of the eye), and some severe dynamiting injuries.

In the absence of strapping for extension, fractured femurs were best treated by driving the cleanest nail that could be found through the upper tibia. Thomas splints were devised by twisting wire, and pulleys and cords were manufactured. The Hamilton Russell type of extension was used on occasion. It was found that good healing usually occurred in abdominal wounds, using well-washed hands and no gloves. All instruments, along with such drapings as were available, were sterilized by boiling.

Lack of anaesthesia was the greatest difficulty, and it was necessary to perform most minor operations in its absence. Minute amounts of chloroform were obtained from the Japanese and Siamese, and carefully conserved for special procedures. I was able to obtain small quantities of "novocain" products, and this became the sheet anchor for spinal anaesthesia (1–2.5 ml. of freshly prepared 10% solution in distilled water). With variations of technique this sufficed for almost all operations on the abdomen and lower limb—e.g., gall-bladder surgery and amputations through the thigh. Local infiltration was much less economical but was necessary for the head or upper limb. Lieut.-Col. A. E. Coates did a most impressive series of 120 amputations of the lower limb at the 55-Kilo Hospital in Burma, employing a solution of cocaine (approximately 0.75 ml. of 2% solution intrathecally).

Catgut or other suture materials were rarely supplied by the Japanese, and numerous substitutes were used. I found cotton very useful, also silk obtained in quantity by unravelling the parachute cords carried by R.A.F. personnel. The most useful product was a locally prepared "catgut" from the peritoneum of pigs and cattle, first introduced by an ingenious Dutch chemist, Capt. von Boxtel, working under Lieut.-Col. Coates. The peritoneum was trimmed in 6-metre ribbons of varying width, twisted on a winder and dried. Sterilization was effected at 130° F. (54.4° C.) for half an hour, after which it was put in ether for twenty-four hours, and finally in 90% alcohol and iodine.

Surgical instruments were most scarce, and ingenious improvisations were made. On occasion razors and pocket-knives were used to make incisions, while butchers' saws and carpenters' tools found useful employment.

Surgery in Base Hospitals

In base hospitals the resources in tools, scraps of metal, and cherished oddments were greater, and some quite complex instruments were devised—for example, sigmoidoscopes, bowel clamps, rib shears, Cushing's silver clips and applying forceps, and optical apparatus. At Nakom Patom hospital, where the theatre was reasonably dust-proof and provided with a cement floor, a great range of surgical procedures were carried out under the enthusiastic direction of Lieut.-Col. Coates, who worked tirelessly at surgery in addition to administration. Major S. Krantz, A.A.M.C., has reviewed the surgical work of the hospital, in which he took an important part. Excluding very minor procedures, 773 surgical interventions were carried out, including such varied operations as brain and spinal-cord surgery, thyroidectomy, gastrectomy, enterectomy and anastomosis, abdomino-perineal resection, cholecystectomy, thoracic surgery, splenectomy, nephrectomy, laryngectomy, orthopaedic measures, and nerve sutures.

Appendicostomy, caecostomy, and ileostomy were allotted some place in the treatment of dysentery. Appendicectomy was carried out for appendicitis in 133 cases without mortality. Operations for hernia totalled 114, the majority being repaired with unabsorbable sutures. There were no deaths, 5 infected wounds, and 3 known recurrences. While it cannot be said that surgical procedures played a major part in the survival of prisoners of war, they represented considerable triumphs over unfavourable conditions.

Improvisation

Necessity is indeed the mother of invention, and while the Japanese were in the main obstructive rather than helpful they paid Allied prisoners the compliment of expecting miracles of improvisation to replace normal supplies. In heart-breaking jungle areas devoid of the most commonplace materials, where even pieces of wire, nails, fabrics, empty tins, leather, etc., were prized possessions, and habitations were made of bamboo and palm leaf held together with jungle fibre, ingenuity was indeed tested.

Astonishing uses were made of bamboo, which served for such varied construction as beds, brooms, brushes, baskets, containers, water-piping, tubing, splints, etc. Timber was obtained by felling trees and splitting with wooden wedges, and used for many purposes, including footwear (clogs). Where solder could not be extracted from sardine tins and the like, water-tight tinsmithing was done by ingenious folding. Sources of hydrochloric acid included the human stomach. Flux was readily manufactured if sulphuric acid could be stolen from car batteries. Leather was prepared from buffalo or cow hide, and thread or string from unravelling webbing equipment, kit-bags, etc. It was necessary to equip jungle hospitals by the work of patients as well as staff, and they were organized in mass-production efforts with all available tools and resources.

Articles made by this "cannibalization" of effects at Tarsau and Chungkai included urinals, bed-pans, commodes, surgical

beds and pulleys, feeding-cups, wash-basins, irrigators, sterilizers, small portable charcoal stoves, disinfectors, stretchers and stretcher beds (with sack and bamboo), back-rests, leg-rests, oil-lamps, brooms, brushes, trays, tables, orthopaedic appliances, splints, surgical instruments, and artificial limbs and eyes (from mah-jongg pieces). The artificial limbs made at Nakom Patom under the direction of Major F. A. Woods, A.I.F., were designed from crude timber, leather cured from hide, thread from unravelled packs, iron from retained portions of officers' stretchers, and oddments of sponge-rubber, elastic braces, etc.

Part of an appeal to camp members at Chungkai was: "The following articles are urgently needed: Tins and containers of all sorts, solder, flux, nails, wire, screws, sponge rubber, scraps of clothing, hose-tops and old socks, string, webbing, scraps of leather, rubber tubing, glass bottles of all sorts, glass tubing (transfusion purposes), canvas, elastic, rubber bands or strips, braces, wax, mah-jongg pieces, and tools of all sorts. Nothing is too old, nothing is too small."

Two Life-saving Achievements

A life-saving measure introduced by Major Reed, A.A.M.C., and developed by Capt. J. Markovitch, R.A.M.C., was the use of defibrinated blood for transfusion purposes. Using soldiers trained as technicians, thousands of transfusions were carried out by simply collecting the blood of a suitable donor into a container while stirring continuously with a spatula or whisk. Vigorous stirring was carried on for five minutes after clotting commenced on the spatula. The blood was then filtered through sixteen layers of gauze, and administered. Much help in the preparation of drugs and chemicals was given to medical officers by chemists, botanists, and scientists. Another life-saving achievement was the production of emetine from a limited quantity of ipecacuanha by Capt. van Boxtel at the 55-Kilo Camp. Sgt. A. J. Kosterman and Sgt. G. W. Chapman did most valuable work in this respect.

Distilled water for intravenous use was prepared in numerous camps and hospitals. Alcohol for surgical and other purposes was obtained by the fermentation of rice with a suitable strain of fungus and distillation up to 90% strength. Grass extracts and other vitamin sources were exploited, and some useful items of materia medica were collected from local natural sources. From these, such products as essential oils—e.g., cloves and citronella—were obtained. Milk and bread made from soya bean lent some variety to the diet at times.

Products of minor importance included ink, paper, and cork substitutes. Major T. Marsden, R.A.M.C., provided an ingenious pathological service with improvised apparatus which satisfied most routine requirements. Colour indicators for *p*H were extracted from local flowers, and litmus paper was manufactured.

Conclusion

The treatment of sick prisoners by the Japanese left almost all civilized behaviour to be desired.

The fortitude and sustained morale of British soldiers under prolonged strain and suffering were most praiseworthy. The toll of long-continued strain and multiple debilitating diseases merits consideration and sympathy in the problems of post-war rehabilitation.

The survival of many sick prisoners from the Far East was due to ingenious and devoted work by the various medical services, and to the co-operation, disciplined organization, and sacrifice of non-medical personnel.

Summary

1. An account is given of experiences in prisoner-of-war camps and hospitals in Java and Siam.

2. Disease problems and their treatment are briefly discussed.

3. Surgical procedures in remote areas and in prisoner-of-war hospitals are described.

4. A brief outline is given of the scope of measures of improvisation.

I am indebted to Gnr. J. Chalker, R.A., for the drawings reproduced on the special photogravure plate.

Reference

Dunlop, E. E. (1946). *British Medical Journal*, **1**, 124.

HAEMOGLOBIN AND PROTEIN LEVELS AND SPLEEN INDICES IN N. GREECE

THEIR RELATION TO DIET

BY

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The purpose of the present survey was to investigate the haemoglobin and protein levels in Macedonia and Thrace (N. Greece), to compare them with the distribution of malaria, and to discover any changes that had taken place since 1934 that might be regarded as due to the wartime diet of Greece or to the reputed low level of nutrition since the British occupation in October, 1944. In addition it was felt that some information was desirable on haemoglobin values in a part of Europe that is almost entirely agricultural or pastoral.

The results of the surveys carried out in Britain during the past eight years have tended to show that there is a relation between economic status, diet, and haemoglobin levels (Dobbs, Mackay, and Bingham, 1944 ; Mackay *et al.*, 1942, 1946 ; Davidson *et al.*, 1942, 1943, 1944 ; Fullerton *et al.*, 1944 ; Yudkin, 1944; M.R.C. Special Report Series, 1945; McCance *et al.*, 1938). Some authors (Davidson *et al.*, 1944 ; Fullerton *et al.*, 1944) have shown that there has been a slight rise in the haemoglobin levels during the war, which they have attributed to the wartime loaf of bread ; this has, however, been criticized by Dobbs, Mackay, and Bingham (1944). A Belgian survey by Nizet (1945) states that there is no relation between malnutrition and haemoglobin levels. If malaria is present the haemoglobin picture will probably be further affected, but the relation of malaria to haemoglobin levels appears not to be a simple one, as is shown below.

In view of the British findings of a relation between economic status, diet, and haemoglobin levels it appeared important to ascertain what the situation was in a country that is admittedly at wretchedly low economic and nutritional levels (Fairley, Bromfield, Foy, and Kondi, 1938 ; Foy and Kondi, 1939).

The results of blood-protein assays in Britain showed values averaging 6.78 g. % in Canadian soldiers and 6.56 g. % in blood donors, with variations of ±1 g. %, the figures thus being normal. Except in frank cases of starvation or semi-starvation, it is not to be expected that there would be any significant changes in the blood protein.

The relation of blood protein to the haemoglobin concentration has been fairly thoroughly investigated by a number of workers, and the conclusion drawn that there is very little correlation between them, falls in haemoglobin not being associated with similar or concomitant falls in blood proteins. In addition to the estimation of proteins, haemoglobin, and spleen index, a clinical and physical examination of school children for signs of malnutrition was included in the present survey as well as the results of tuberculin tests ; the data for these will be published later by Dr. Kornbluh and Miss Rosenfeld.

Methods

For convenience the area of Macedonia and Thrace was divided into six regions, and in each region a number of villages, varying from 5 to 9, were investigated. The villages selected in each of the regions were chosen so as to give information regarding both mountain and plain villages, with a view to ascertaining any difference between them. The whole survey was carried out by the same team, and the haemoglobin and blood protein estimations were done by the same persons throughout the work. Thus unavoidable personal subjective errors inherent in the methods of haemoglobin estimation were eliminated or reduced to an absolute minimum—a point of the highest importance in haemoglobin estimations.

Proteins were estimated by the copper-sulphate specific gravity method (Phillips *et al.*, 1945).

Haemoglobin was estimated by two different methods—the direct Dare and the specific gravity. Hynes and Lehmann (1946) have shown the latter method to be very useful for mass

surveys. It must be admitted that even in the laboratory there is no really satisfactory method of estimating haemoglobin with great accuracy, with the possible exception of the gasometric. For choice in this laboratory the Pulfrich photometer or the Klett photo-electric apparatus has been used with alkaline haematin (Heilmeyer, 1933). It was impossible to use such methods in the primitive conditions under which this survey had to be conducted. The Haldane-Gowers carboxyhaemoglobin method was also impracticable, if only for the reason that neither the apparatus nor the carbon monoxide was available here. Recourse had therefore to be made to the Dare and specific gravity methods. It is fully realized that neither of these methods approaches in accuracy the spectrophotometric methods. More than ten years' experience of haemoglobin surveys in the primitive backwaters of the Balkans and Central Africa has, however, shown us that in experienced hands the Dare method is no more inaccurate than the Haldane-Gowers dilution method, especially when working at temperatures of 35° to 45° C. in the open country. The Dare and specific gravity methods were checked against the spectrophotometric alkaline haematin method of Heilmeyer, and the agreement in the great majority of cases was very good. It is felt, then, that the two methods used in the present survey, although leaving something to be desired, do give a fair and reasonable idea of the haemoglobin levels in this part of Europe. In our notation we have used grammes per cent., as being more in keeping with modern standards, and have taken the mean physiological normal as 15 g. %. The M.R.C. report used the percentage notation of the Haldane-Gowers scale, where 109.8% equals 15.15 g. % (Whitby and Britton, 1942).

The spleens were all palpated in the recumbent position, with the knees flexed, and the Hackett notation was used. This was the system adopted by the Rockefeller Foundation in its antimalaria campaign, 1929 to 1937, and it has been used in Greece ever since, so that the spleen indices given in this report are comparable with all previous surveys. The blood was taken from the antecubital veins by wide-bore, dry-sterilized needles into tubes containing 2 mg. of dry potassium oxalate and 3 mg. of dry ammonium oxalate. The blood was withdrawn without any constriction whatever, and the specific gravity of whole blood was estimated immediately, and of plasma within from three to six hours after drawing the blood.

In all, some 1,500 protein estimations and 2,500 haemoglobin estimations have been made and 3,600 spleens examined. The cases in the various areas were selected at random from among the working inhabitants, and may fairly be said to represent a cross-section of the community.

The survey was done between the months of January and April, 1946, at a time when there is no malaria transmission, and before the relapse season has started. The spleen rates given are therefore to be regarded as minimal. It should be noted that the past four years have been ones of very low malarial endemicity in Greece, borne out by the spleen size distribution and the relation of the parasite index to the spleen index. In years of high endemicity or during epidemics the proportion of small spleens is high and the difference between the parasite and spleen indices much smaller. A further factor affecting the parasite index will, of course, be the taking of suppressive or curative drugs, of which mepacrine was given in large amounts during and since the war. The effect of these drugs on the spleen index will be much slower.

Protein Estimations

As will be seen from Tables I to VII and the Chart the proteins are within the normal range, in some cases above the

TABLE I.—*Mean Haemoglobin and Protein Levels in the Six Regions*

Regions	Haemoglobin, g. %				Protein, g. %				Spleen Index %
	Men	Women	Children	Total	Men	Women	Children	Total	
Florina ..	14·30	13·10	13·00	13·50	7·15	7·11	6·98	7·08	13
Kilkis ..	14·06	12·76	12·87	13·23	7·36	7·41	7·15	7·29	28
Nigrita ..	13·59	12·05	12·66	12·88	7·29	7·56	7·22	7·35	46
Salonika ..	13·60	12·36	12·20	12·72	7·52	7·43	7·32	7·42	31
Komotini	13·30	11·90	12·10	12·40	7·26	7·16	7·00	7·14	36
Xanthi ..	13·10	11·70	12·10	12·30	7·29	7·40	7·13	7·26	43
Average	13·65	12·31	12·16	12·75	7·31	7·34	7·10	7·25	33

TABLE II.—*Florina Region*

Villages	Haemoglobin, g. %				Protein, g. %				Spleen Index %	Parasite Index %
	Men	Women	Children	Total	Men	Women	Children	Total		
Katocline ..	14·80	13·05	13·10	13·65	7·14	6·56	6·95	6·88	12	0
Nikis	13·70	12·40	12·60	12·90	7·16	7·47	7·03	7·22	18	10
Florina	14·65	13·30	13·50	13·81	7·10	7·25	7·03	7·12	10	2
Armenohori ..	14·20	13·50	13·05	13·58	7·26	7·11	7·00	7·12	16	4
Alona	14·15	13·15	12·75	13·35	7·11	7·14	6·90	7·05	8	0
Average ..	14·30	13·10	13·00	13·50	7·15	7·11	6·98	7·08	13	

TABLE III.—*Kilkis Region*

Villages	Haemoglobin, g. %				Protein, g. %				Spleen Index %	Parasite Index %
	Men	Women	Children	Total	Men	Women	Children	Total		
Efcarpia	13·00	13·30	12·80	13·00	7·36	7·48	7·21	7·35	37	0
Zarato	13·65	13·20	13·40	13·45	7·80	7·18	7·42	7·47	26	2
Mavroplya ..	13·90	13·20	12·50	13·20	7·15	7·68	7·10	7·31	32	0
Milohore	14·30	12·40	11·95	12·88	7·27	7·53	7·27	7·36	48	0
Elephterohore ..	14·25	12·55	12·95	13·23	7·23	—	6·90	7·07	17	0
Palaeogynecokistro	13·60	12·45	12·85	12·96	7·66	7·25	7·20	7·37	25	0
Kryston	14·60	12·25	13·10	13·31	7·52	7·70	7·36	7·52	25	0
Kilkis town ..	14·30	12·75	12·80	13·28	7·50	6·98	6·95	7·14	17	0
Terpylos	14·95	12·75	13·50	13·73	6·77	7·51	6·95	7·07	25	0
Average ..	14·06	12·76	12·87	13·23	7·36	7·41	7·15	7·30	28	

TABLE IV.—*Nigrita Region*

Villages	Haemoglobin, g. %				Protein, g. %				Spleen Index %	Parasite Index %
	Men	Women	Children	Total	Men	Women	Children	Total		
Thermae	14·10	12·80	13·00	13·30	6·85	7·40	6·88	7·04	61	6
Flamouri	13·40	11·05	12·60	12·35	7·62	7·65	7·52	7·60	87	9
Sesamina	14·10	—	12·75	13·42	7·33	—	7·37	7·38	24	0
Nikolona	12·75	12·30	11·95	12·33	7·37	7·62	7·14	7·38	36	0
Nigrita town ..	—	—	13·00	13·00	—	—	7·19	7·19	23	4
Average ..	13·59	12·05	12·66	12·77	7·29	7·56	7·22	7·32	46	

TABLE V.—*Salonika Region*

Villages	Haemoglobin, g. %				Protein, g. %				Spleen Index %	Parasite Index %
	Men	Women	Children	Total	Men	Women	Children	Total		
Nea Dorkas ..	14·70	13·00	12·50	13·40	7·45	7·52	7·50	7·49	22	1·5
Xiliopolis ..	13·90	12·60	12·30	12·93	7·36	7·63	7·41	7·47	15	6·0
Assiros	13·02	11·90	12·24	12·43	7·32	7·13	7·16	7·20	26	2·0
Langada	—	12·61	11·98	12·29	—	7·31	7·19	7·25	9	1·8
Nea Halkidon ..	13·50	12·60	12·70	12·93	7·39	7·28	7·32	7·33	42	12·0
Nea and Palia Pela	14·40	12·20	11·90	12·85	7·68	7·47	7·49	7·55	23	0·0
Gida	12·45	12·15	11·75	12·11	7·60	7·59	7·30	7·53	70	26·0
Ag. Vasilios ..	12·95	12·10	12·30	12·45	7·85	7·54	7·22	7·54	36	8·6
Average ..	13·60	12·36	12·20	12·70	7·52	7·43	7·32	7·42	30·5	

TABLE VI.—*Komotini Region*

Villages	Haemoglobin, g. %				Protein, g. %				Spleen Index %
	Men	Women	Children	Total	Men	Women	Children	Total	
Komotini town	13·5	11·7	12·8	12·7	7·16	7·09	6·84	7·03	20
Pandrossos ..	13·7	11·3	12·0	12·3	7·08	7·11	6·93	7·04	50
Aratos ..	12·7	12·0	11·7	12·1	7·31	7·05	6·88	7·08	48
Xilogani ..	13·2	12·1	11·8	12·3	7·33	7·14	7·18	7·22	20
Iasmos ..	13·3	12·2	12·1	12·5	7·45	7·43	7·21	7·36	40
Average ..	13·3	11·9	12·1	12·4	7·26	7·16	7·00	7·14	35·6

TABLE VII.—*Xanthi Region*

Villages	Haemoglobin, g. %				Protein, g. %				Spleen Index %	Parasite Index %
	Men	Women	Children	Total	Men	Women	Children	Total		
Plastiria	13·5	11·7	12·3	12·5	7·11	7·02	7·17	7·10	65	0·0
Yenissia	12·6	11·7	12·0	12·1	7·30	7·54	6·98	7·27	46	13·3
Paradissos ..	13·4	11·6	12·1	12·4	7·43	7·56	7·12	7·37	44	—
Stavroupolis ..	13·2	12·5	11·6	12·4	7·41	7·13	7·15	7·23	15	—
Mikis	12·5	10·4	11·7	11·5	7·24	7·86	7·20	7·43	69	37·0
Xanthi town ..	13·7	12·7	13·0	13·1	7·25	7·35	7·17	7·26	16	—
Average ..	13·1	11·7	12·1	12·3	7·29	7·41	7·13	7·27	42·5	

normal mean value. The average for the whole of Macedonia and Thrace was 7.25%. The figures for men, women, and children were 7.31, 7.34, and 7.10 g. % respectively. At first it was thought that the rather high protein values might be associated with malaria, but an examination of the data showed that there was no consistent relation between these two. The lowest protein figure was found in the Florina region for children at 6.98 g. % and the maximum figure in the Nigrita region for women at 7.56 g. %. There was no striking difference between the various regions or between the villages in the same region.

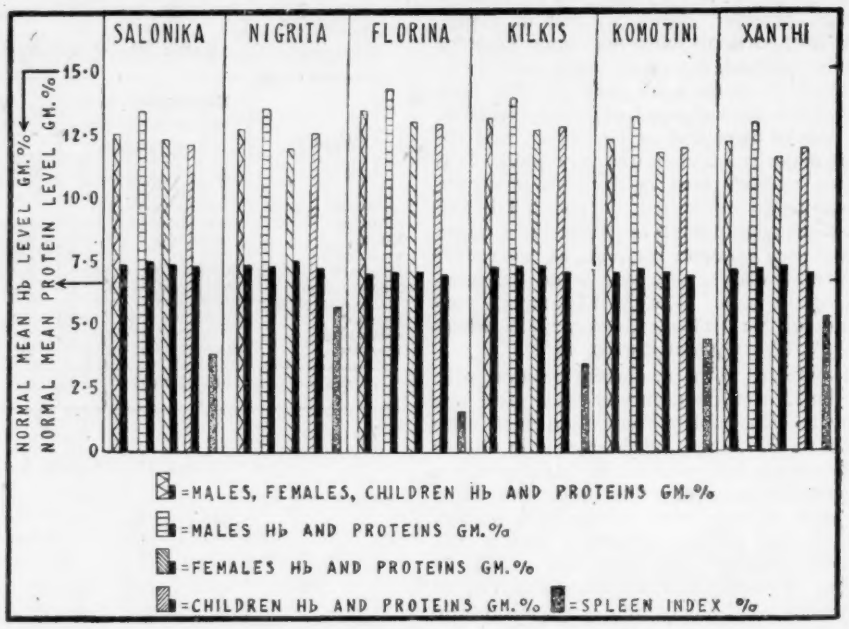

Chart showing mean haemoglobin and protein levels.

Haemoglobin Estimations

The mean average haemoglobin level for men, women, and children of Macedonia and Thrace was 12.75 g. %. The average figure for men was 13.65 g. %, for women 12.31 g. %, and for children 12.16 g. %. Of the population of Macedonia and Thrace 29% had haemoglobin levels of 12 g. % or below; 10% of the men, 38.3% of the women, and 34.8% of the children were below this level. Thus the number of women and children below this level is nearly four times greater than that of the men. In Table VIII the percentage at or below the 12 g. % level is given for all the different regions.

TABLE VIII.—*Percentage of Haemoglobin at or below 12 g.%*

	Men	Women	Children	Total	Regional Spleen Index %
Florina	0·0	11·9	16·5	11·6	13
Kilkis	3·2	22·3	17·9	14·8	28
Nigrita	19·4	50·0	33·0	33·8	46
Salonika	9·8	34·4	41·8	34·2	31
Komotini ..	14·9	50·6	58·5	42·6	36
Xanthi	13·0	51·0	41·0	37·3	43
All regions ..	10·0	38·3	34·8	29·0	33

The lowest figures were consistently found in Thrace in the Xanthi and Komotini regions, where the levels for women were 11.7 and 11.9 g. % respectively. The maximum figures were found in the Florina region, with an average for men, women, and children of 13.5 g. %. It was in the Florina region that the proteins were lowest, but not below normal. This lack of correlation between blood proteins and haemoglobins has been noted by other workers. We have no explanation for the low haemoglobin levels in the Xanthi and Komotini regions. Perhaps the fact that they are predominantly tobacco-growing areas may have a bearing. Alternatively, it may be connected with the rather high proportion of Turks in these regions. We have found that in villages with both Turks and Greeks it is always the Turkish section that has the lower haemoglobin level, and the Turks are generally the more wretched. Whether this is due to economic discrimination, indolence, or race has not been investigated—the fact is merely reported.

These haemoglobin figures for Macedonia and Thrace do not compare unfavourably with those of Britain and the U.S.A. In Britain, Davidson *et al.* (1943) found that among the municipal school children of Edinburgh 39% had haemoglobin levels of 11.04 g. % or below; that among female factory-workers 23% had haemoglobin levels of between 8.7 and 11.0 g. %, and that 72% of pregnant women had values of 11.0 g. % or below. In the U.S.A., Milam and Anderson (1944) found that white and negro children in North Carolina had average values of 13.0 and 12.35 g. % respectively. that white and negro males had 14.6 and 14.1 g. %, and white and negro females had values of 13.1 and 12.5 g. %. In Florida, Abbott and his co-workers (1945) found the mean values for male and female adults to be 11.45 and 11.74 g. %, with 43% of their subjects having values ranging from 3.6 to 11.4 g. %.

This relatively favourable haemoglobin picture from Macedonia and Thrace when compared with Britain and the U.S.A. needs qualification. The relation of haemoglobin levels to malaria in Greece is by no means a simple one, and cannot be assessed only on the basis of spleen indices. As is well known, the endemicity of malaria in Greece varies from year to year; in some years it is high, in others low, and periodically it takes on an "epidemic" form, accompanied by the occurrence of large numbers of cases of blackwater fever. After several seasons of low endemicity the distribution of spleen *size* will differ from that found after an epidemic; after the former there will be a greater proportion of the larger old "spleens," while after the latter there will be a relatively higher proportion of small spleens. In addition, after years of low endemicity the relation of the parasite index to the spleen index will be far from unity, while after an epidemic the spleen and blood indices will more nearly approach one another. Similarly the widespread use of antimalarial drugs will be expected to reduce the parasite index more quickly than the spleen index.

Spleen Indices

If spleen indices only are taken into account there appears to be no consistent relation between them and haemoglobin levels, as is shown by a comparison between two villages in the Nigrita region—Flamouri and Nikolona. In the former the spleen index was 87% and the haemoglobin level 12.35 g. %, whilst in Nikolona, with a spleen index of only 36%, the haemoglobin level was 12.33 g. %. The relation of the parasite index to haemoglobin levels appears to be more direct. Fairley (1934) has shown that in chronic cases of malaria the anaemia is far from severe, while in acute cases the blood

picture is quite otherwise. A similar situation has been found to exist in the field in Greece. In Flamouri, where the spleen index was 87%, the parasite index was 9% and the haemoglobin level 12.35 g. %; in Mikis the spleen index was 69%, the parasite index 37%, and the haemoglobin level 11.5 g. %. It is to be expected, then, that in years of high endemicity or during epidemics when the blood-parasite index is high the haemoglobin level will be lower than in years when malaria is less rife and the parasite index is lower. The last four years in Greece have been ones of low malarial endemicity in most parts of the country, and the haemoglobin levels were higher than they would have been if this survey had been carried out after an epidemic or a number of years of high endemicity. It is important, then, to realize that the haemoglobin picture in Greece will vary from year to year, according to the malaria situation, and that the present survey probably shows the haemoglobin at its peak. In such circumstances it is extremely difficult to assess the relative importance of malaria, poor diet, and economic status on haemoglobin levels.

As pointed out in a previous paper (Foy and Kondi, 1939), the rural populations of Macedonia eat meat not more often than two or three times a year; other proteins are of course eaten, such as peas, beans, cheese, and less frequently eggs and sour-milk products. So far as we are aware there is no deficiency of iron in the diet here, but a thorough-going nutritional survey has yet to be made in Macedonia by a competent team of workers. In the past the low intake of meat has been regarded as not unconnected with the great prevalence of hyperchromic macrocytic anaemias in Macedonia (Fairley, Bromfield, Foy, and Kondi, 1938), where they form some 55% of all the anaemias occurring in the country. A consideration of all these facts would make it appear that malaria is not the only nor the most important factor concerned in the anaemia picture of Macedonia and that diet may occupy an important place. The dietary deficiency may not be the same as that in Britain or the U.S.A., as is evident from the greater prevalence of macrocytic hyperchromic anaemia here.

Summary and Conclusions

A protein, haemoglobin, and malaria survey has been made over a wide area of Macedonia and Thrace to investigate the relation of these indices to one another and to diet. In all, some 1,500 blood protein estimations and 2,500 haemoglobin estimations have been made, and 3,500 spleens have been examined.

The proteins were all within normal range, in some regions above the normal mean value. The figures for men, women, and children were 7.31, 7.34, and 7.10 g. % respectively. The mean average for the whole population was 7.25 g. %. No consistent relation was found to exist between protein values and spleen indices.

The mean average haemoglobin level for men, women, and children was 13.65, 12.31, and 12.16 g. % respectively. The mean value for the whole population was 12.75 g. %. Of the whole population 29% had levels that were at or below 12 g. %; 10% of the men were at or below this level, 38.3% of the women, and 34.8% of the children. Thus there were nearly four times as many women and children at or below the 12 g. % level as there were men.

There were no consistent relations between low haemoglobins and high spleen indices; there was, however, a closer relation between parasite indices and haemoglobin values. Spleen and blood parasite indices in Greece vary from year to year, according to the severity of malaria. In years of low endemicity the spleen and blood parasite indices will not approach one another very closely—that is, the spleen rates may be high and the blood-parasite rates low; in years of high endemicity or after epidemics the blood-parasite and spleen rates will approximate much more closely. It follows, therefore, that the haemoglobin level will vary from year to year and will be much more directly related to the high blood-parasite indices than to high spleen indices, as in fact has been found to be the case in acute and chronic malaria.

The relatively favourable haemoglobin levels found in the present survey is accounted for by the fact that the past four years in Greece have been years of low endemicity in most parts of the country. The present figures, obtained during a transmission- and relapse-free period, may be taken as probably representing the peak haemoglobin level of Macedonia and Thrace.

The large proportion (55%) of hyperchromic macrocytic anaemia present in Macedonia and Thrace at all times makes it seem likely that there are other factors as well as malaria that are concerned in the anaemia situation in this part of Greece. So far as is known there is no deficiency of iron in the diet. In the past the very low intake of animal protein, which is eaten only two or three times a year, has been regarded as related to the high incidence of these macrocytic anaemias.

No relation was found to exist between blood-protein levels and haemoglobin levels; nor were there any constant differences between the haemoglobin and protein values for the mountain and plain areas.

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AN INVESTIGATION INTO CERTAIN TONGUE CHANGES IN BRITISH TROOPS

BY

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The object of the present investigation was to determine the incidence, clinical picture, and, if possible, the cause of a symptomless tongue condition which was occurring among British troops in India and South-East Asia Commands, and which was giving rise to diagnostic difficulties. The principal features of this condition were fissuring, epithelial changes, and changes in the architecture of the papillae. The most probable aetiology was considered to be a nutritional deficiency, probably of riboflavin.

Briefly, the incidence and macroscopic appearance of these tongues were investigated among troops who had been two years in India or on the Burma Front, and for comparison a similar investigation was carried out on British troops fresh to India from the U.K. Therapeutic trials were carried out to demonstrate the effects of thiamine, riboflavin, and niacin on such tongues. All tongues were examined in a good light, both naked eye and with the aid of a ×6 lens. The same macroscopic tongue appearances were found both in troops fresh to India and in those who had served there for a considerable time. Only the incidence of the condition differed in the two groups.

Principal Features

Fissuring.—Difficulty was encountered in defining what constituted fissuring. For the purposes of this investigation all tongues which showed furrows other than the normal single antero-posterior furrow were accounted fissured. Fissures of all grades of severity were seen and were classified according to the depth and width of their troughs. Where they were shallow, appearing as a parting between the papillae, the term mild was applied. Where they were deeper and their troughs were sunk below the level of the papillary bases, the term moderate was applied. Fissures which were deep and wide were listed as severe. Besides differing in depth and width the fissures varied in number, position, and length. Some were sagittal, some coronal, some oblique, some straight, some curved; they varied from a few millimetres to a few centimetres in length; in number they varied from two or three to twelve to fifteen.

The fissuring sometimes occurred alone, sometimes in association with other tongue changes, such as epithelial stripping, loss of fur, or alterations in the papillary architecture, described later. In no case did the patients complain of sore tongue; evidence of inflammation was absent.

Of special interest was a condition in which the whole dorsum and edges of the tongue were the site of multiple deep wide fissures. A number of men with such tongues stated that the condition had been present from birth, or from as far back as they remembered. In these tongues markedly hypertrophic papillae of fungiform shape were a feature of note. These were undoubtedly cases of "scrotal tongue" and were of little clinical significance.

Epithelial Changes.—The following three main types of epithelial changes were encountered.

Type I.—The patches were single or multiple, round or irregular, and varied in size from a match-head to a sixpence. Over these patches fur was either entirely absent or thinner than that of the surrounding dorsum, giving in consequence a redder appearance to the patch. These areas were transient, appearing and disappearing at different sites on the dorsum for no apparent reason. They sometimes occurred alone, sometimes in association with other tongue changes.

Type II: Geographical or "Mapped" Tongue.—In this connexion multiple areas devoid of fur, similar to the patches seen in Type I, were found, most commonly along the edges but also on the dorsum of the tongue. They were distinguishable from the preceding, however, by a distinctly demarcated border, usually incomplete and consisting of a thickened whitish-grey epithelium. This thickened border gradually advanced over the tongue, leaving behind it an area devoid of normal papillae and fur; *pari passu*, the receding edge of the furless area assumed a normal appearance, so that periodic examinations revealed a change in the "map" of the tongue. The significance of this irregular desquamation of the tongue is unknown. Geographical tongue was always associated with fissuring of greater or less degree.

Type III.—Here red, shiny patches, often circular and the size of a shilling or less, occurred centrally on the posterior third of the dorsum. They were sometimes irregular and sometimes enclosed islands of normal epithelium. Over these areas the papillae were absent. In some cases the area was subdivided by multiple tiny cracks, like a crazy-pavement; in some it was quite smooth. The appearance was suggestive of a past inflammation in which the specialized papillary epithelium had been lost and the area covered with a flattened epithelium. If this is the explanation the contraction of the subepithelial connective tissue would explain the fissures. Sometimes the patch was covered with a delicate white epithelium, like a fine film of paper, giving an appearance similar to a mild localized leucoplakia.

Papillary Changes.—Variations in the general papillary architecture were also noted. In some tongues the dorsum was covered with a uniform papillary mat which made it difficult to differentiate, naked eye, the filiform and fungiform papillae. In others the fungiform papillae, especially at the edges, were prominent and injected. This appearance was only transient. In all the scrotal and severely fissured tongues many large mushroom-shaped papillae were found.

Fissuring, epithelial changes, or the papillary changes apart from injection did not seem to be related to the soldiers' age, length of service, use of dentures, alcohol or condiment consumption, or to tobacco smoking.

TABLE I.—*Showing Incidence of Fissuring and Epithelial Changes*

	U.K. Group		Burma Front Group	
	No.	%	No.	%
Total examined ..	2,390		761	
Tongue changes ..	240	10·04	112	14·7
Fissuring	225	9·4	97	12·73
Severe	12	0·5	5	0·65
Moderate	42	1·75	22	2·89
Mild	171	7·15	70	9·19
Epithelial changes ..	73	3·05	46	6·04
,, plus fissuring	58	2·42	31	4·07
,, alone ..	15	0·62	15	1·97
Fissuring alone ..	167	6·98	66	8·6

In Table I the comparative incidence of fissuring and epithelial changes in the tongues of troops recently arrived in India and of those who had been fighting on the Burma Front are given. It will be noted that the incidence of both fissuring and epithelial changes is greater in the Burma Front Group than in the U.K. Group, the increase in epithelial changes being relatively greater than the increase in fissuring. The differences in incidence are significant statistically as seen by χ^2 test. It will be seen from the table that epithelial changes occurred more often in fissured than in non-fissured tongues. The significance of this is unknown, but it suggests that fissuring and epithelial changes are part of a common syndrome or that the fissured tongue is more liable to epithelial changes.

Other Evidence of Nutrition Deficiency

During the tongue examination signs of nutritional deficiency were looked for in the general condition of the soldier, in the eyes, mouth, skin, etc. The only sign of possible nutritional origin discovered was angular stomatitis. In the U.K. Group four cases were seen among 2,390 men examined; in three it was associated with fissuring of the tongue, in the fourth there was no other sign of possible nutritional import.

Among 761 men who had served on the Burma Front, three cases of angular stomatitis were seen; in two mild fissuring was present, in the third there was no lingual abnormality. In none of the cases of angular stomatitis in either group was the condition severe. The usual appearance was a sodden thickened epithelium at the angles of the mouth without actual cracking.

Therapeutic Tests and Results

To demonstrate the effects, if any, of certain vitamins of the B complex on these tongue conditions, 80 men, showing one or more of the tongue changes described, were selected for therapeutic trials. Men showing similar tongue changes were paired off, and to one man was given vitamin supplements while his "twin" received no supplements and was simply observed as a control. Thirty-one men received five compound vitamin tablets per head daily for 24 days (each tablet containing thiamine 1 mg., riboflavin 1 mg., niacin 10 mg., and ascorbic acid 25 mg.); 10 men received five lactoflavin tablets (each containing 1 mg. of riboflavin) per head daily for 15 days. One man receiving vitamins and one from the control group fell out during the course of the experiment.

During the investigation all the men subsisted on the same scale of rations, all underwent the same training, and the two groups lived so far as possible under comparable conditions. The health of the men studied remained good throughout the investigation. In particular there were no cases of diarrhoea.

To minimize subjective influences, drawings were made of the tongue condition at each examination, and a decision whether there was improvement, deterioration, or no change was attempted. The results are shown in Table II. It will be seen from the table that neither in the cases of fissuring nor in the cases of epithelial changes were there any significant improvements due to vitamin administration. A note was also kept of the papillary architecture of the tongues under observation. No significant alteration was observed as a result of vitamin therapy.

TABLE II.—*Effects of Supplements of Compound Vitamin Tablets and of Lactoflavin on Fissuring and Epithelial Changes*

	Experiment using Compound Vitamin Tablets		Experiment using Lactoflavin Tablets	
	Experimental Group	Control Group	Experimental Group	Control Group
Fissuring:				
No improvement	24	24	6	7
Improvement	4	5	3	1
Epithelial changes:				
Type I { No improvement	3	4	0	No
Type I { Improvement ..	4	2	1	control
Type II { No improvement	0	1	1	No
Type II { Improvement ..	0	0	0	control
Type III { No improvement	5	3	1	1
Type III { Improvement ..	0	0	0	0

Discussion

The frequency among British troops in India and South-East Asia Commands of tongue changes suggestive of nutritional deficiency made the verification or refutation of this diagnosis a matter of importance. From the first it appeared improbable that certain of the cases investigated were due to inadequate

diet; many cases of severely fissured tongue gave a lifelong history of the condition, and two cases of geographical tongue actually appeared after the addition of vitamin supplements to the diet. As, however, there was little to distinguish the tongue changes in cases giving a helpful history from those with no such history, it was considered best during the investigation to lump all the cases together.

In favour of the diagnosis of deficiency diseases was the dietary history. In the forward areas where these tongues were first noted the dietary of the troops was giving rise to anxiety. Their ration scale on paper contained adequate amounts of all the essential nutrients, but in practice their ration was not being implemented, and it was doubtful whether even minimum requirements for calories, thiamine, riboflavin, niacin, and ascorbic acid were being met. Cases of undoubted primary malnutrition among British troops, apart from loss of weight, were nevertheless rare. The chief evidence adduced in support of doubtful cases was the tongue changes here described. The fact that such tongues were present in significantly greater numbers among men who had been in S.E.A.C. for a considerable period than among troops fresh from the U.K. lent weight to a nutritional aetiology. Refined laboratory tests in support of this diagnosis were not possible.

There were factors against deficiency disease as the cause. While many of the tongues were suggestive of B hypovitaminosis, and several might have passed as cases of hyporiboflavinosis, it is significant that no cases were found which conformed with the textbook picture of advanced deficiency. This was all the more striking because typical textbook tongues of riboflavin deficiency were occurring among large numbers of Indian troops in the same region; among them generalized redness and pain were features of note which were not found in British soldiers. Further, the tongue lesions of hyporiboflavinosis among sepoys were generally accompanied by other evidence of the deficiency such as angular stomatitis, skin changes, etc. Among the British cases under consideration such corroborative evidence was exceptional. It has also been shown by Thomson and Freedman (personal communication) that the tongue lesions of riboflavin deficiency in Indian troops clear up after 5 mg. of riboflavin daily for 14 days. Kruse (1942), on the other hand, in his investigations into the tongue manifestations of niacin deficiency, stressed the long period required for recovery, and talked in terms of 200 mg. of nicotinamide daily for 14 months to effect a cure. It is realized that in the therapeutic trials carried out on British troops the vitamin dosage was small, the courses short, supplements of only well-known vitamins were given and it is not certain whether they were absorbed from the gut, but the absence of a favourable response to thiamine, riboflavin, and niacin exhibition was against a deficiency of these vitamins being causative. Again, the occurrence of similar tongue changes (albeit less frequently) among troops fresh to India and among those living in the base areas of India, all of whom had been subsisting on a diet adequate on modern standards, makes nutritional deficiency appear unlikely as the cause.

To sum up, it is considered that the balance of evidence is against the tongue changes investigated being of nutritional origin. An alternative explanation cannot be offered at present. The chief object in publishing this paper is to draw attention to the frequency of tongue changes which are apt to be diagnosed as due to deficiency disease and to enjoin caution in their acceptance as such.

Summary

A tongue condition occurring frequently among British troops and characterized by fissuring and changes in the epithelium and architecture of the papillae has been investigated.

The frequency was less among troops fresh from the U.K. than among those in base areas of India or on the Burma Front.

No improvement in the condition followed treatment with thiamine, riboflavin, and niacin.

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BATTLE EXHAUSTION

REVIEW OF 500 CASES FROM WESTERN EUROPE

BY

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In both the 1914–18 war and that of 1939–45 it has been found that the stress of battle conditions sooner or later proves too much for some men and a breakdown occurs. The effects of this may be short-lived, return to the fighting zone being possible after a few days; but in more serious cases a long period of treatment may be required, and even then it may be necessary to discharge the patient from the Forces. During the fighting on the Western Front it was possible to treat the least serious cases on the spot, but in the more severe cases it was found necessary to remove the casualties altogether from the theatre of war and send them home, in many instances to special neurosis centres. An analysis of the medical records of 500 such cases admitted to E.M.S. hospitals since D-Day has been made by the Ministry of Health Statistical Branch at Norcross, where a survey of the records of every fifth admission for in-patient treatment is being carried out. All of the 500 cases were admitted with a diagnosis of battle exhaustion (Medical Research Council Morbidity Code VX/9496/6X), and were not simultaneously suffering from either trauma or disease. Although such a diagnosis depends to some extent on the medical officer, this fact should not invalidate the statistical comparisons which follow.

The figures for the population at risk were not available, and therefore 5,000 wounded men admitted to E.M.S. hospitals from the Western Front during the period from D-Day to the end of 1944 have been used as a basis for comparison. For the sake of contrast, figures of admission for non-combat neurosis have also been extracted for 1942 and 1943, the years for which the statistics are complete. These have been compared with the corresponding total admissions for all diseases, excluding the infective and acute respiratory infections, which are unduly liable to seasonal variation.

TABLE I.—*Percentage Distribution of Battle Exhaustion and Non-combat Neurosis Cases by Age (Males)*

	Age Groups				
	15–	25–	35–	45–	55+
	%	%	%	%	%
Battle exhaustion (M.R.C. Code VX/9496/6X)	48·6	44·6	6·4	0·4	—
Wounds and other injuries from the Western Front (Codes 80–96)	46·5	47·0	6·3	0·2	—
Non-combat neurosis:					
Anxiety states (Codes 3320 and 3321)	24·2	50·0	23·7	2·0	0·1
Hysteria (Code 3324)	30·9	46·5	21·0	1·5	0·1
Psychoneurosis (unspecified) with somatic symptoms (Codes 3330–9)	33·6	42·7	21·4	2·3	—
All diseases (excluding infective and acute respiratory)	33·6	44·8	19·3	2·1	0·2

Comparison of the age distribution of battle exhaustion cases with that for all injuries on the Western Front shows so little difference that it does not appear that any particular group is more prone to combat neurosis than to any other form of accident. The same applies to non-combat neurosis patients admitted for unspecified forms of psychoneurosis with somatic symptoms, and in a lesser degree to cases of hysteria, when these groups are compared with the general average for all non-infective and non-respiratory illness. The proportional incidence of anxiety states is markedly below the average for ages 15–24, and well above for the 25–34 group.

The distribution of days of in-patient treatment shows little variation for the age groups 15–24 and 25–34, and the median periods are approximately equal. For the age group 15–24 the distribution shows that 11.4% were treated for less than 2 weeks, 14% from 2 to 4 weeks, 31.2% from 4 to 8 weeks, 32.9% from 8 weeks to 3 months, and 10.5% over 3 months: while, for ages 25–34, 11.8% were treated less than 2 weeks, 12.8% from 2 to 4 weeks, 27.7% from 4 to 8 weeks, 36.8% from 8 weeks to 3 months, and 10.9% over 3 months. The numbers in the higher age groups are too small for any

TABLE II.—*Length of In-patient Treatment for Battle Exhaustion and Non-combat Neurosis*

Days of In-patient Treatment: Age Groups	0–	4–	10–	14–	21–	28–	42–	56–	91–	182	Not Stated	Total	Median (days)
	No. of Cases												
15–	4	11	11	18	14	22	49	75	23	1	15	243	53
25–	1	14	11	11	17	23	38	81	22	2	3	223	54
35–	1	1	—	4	3	1	8	9	3	—	2	32	49
45–	—	—	—	—	—	—	1	—	1	—	—	2	75
55+	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6 (1·2%)	26 (5·2%)	22 (4·4%)	33 (6.6%)	34 (6·8%)	46 (9·2%)	96 (19·2%)	165 (33·0%)	49 (9·8%)	3 (0·6%)	20 (4·0%)	500 (100%)	53 53
Distribution of 400 cases of non-combat neurosis	0·5%	8·8%	4·2%	10·5%	5·8%	16·2%	15·5%	27·7%	9·8%	1·0%	—	100%	45

conclusion to be based upon them, but from the distribution it does not appear that age is a factor affecting the length of treatment needed. For 400 cases of non-combat neurosis selected at random the median period of treatment was 45 days.

TABLE III.—*Length of Service in the 1939–45 War*

	Years of War Service							Total
	0–	1–	2–	3–	4–	5 and Over	Not Stated	
Frequency	22	73	55	46	127	98	79	500
Percentage of known cases	5·2	17·3	13·1	10·9	30·2	23·3		100%

That only 5.2% of the patients whose period of service was known had had less than 1 year's service may simply reflect the fact that the complexity of modern warfare necessitates longer training before exposure to battle conditions. Men with 4 to 6 years' service accounted for 53.5% of the breakdowns. Of 127 with 4 years' service, 36 had had previous battle experience—8 in France and 28 in the Mediterranean theatre; while of 98 with 5 years' service 16 had been in the fighting in France and Norway and 28 in the Mediterranean. The incidence of breakdown is greatest in those with less than 2 or more than 4 years' service. This may be compared with the experience of Minski (1945), who found that in a series of 54 wounded patients with neurosis, 46 had extremes of service—either 1 to 1½ years, or 4 years or more. It might have been expected that exposure to battle stress would develop a form of resistance to those external causes which promote fear. But for a number of men who had successfully endured all the hardships of the North African campaign, followed in many cases by the Sicily landings, it seemed as if the cumulative effect of their experiences had exhausted all their reserves, leaving them nothing with which to face a new trial. In all, 109 men with varying lengths of service had previously been exposed to battle stress, and of 60 for whom information was given 27 had previously broken down, including 11 who had been treated in neurosis centres.

The view has been expressed that it is not the immediate strain which causes breakdown, but rather a constitutional predisposition. Slater (1943) in an analysis of the records of 2,000 neurotic soldiers found that 55.7% of these men had one or more first-degree relatives—parent, sib, or child—with definite neurotic illness, psychosis, epilepsy, or some form of psychopathy such as drink, shiftlessness, or violent habits. Ballard and Miller (1945), discussing psychiatric casualties in the R.A.F., found a positive family history in 60% of all cases of both sexes. In the battle exhaustion series information as to family mental history was given in 169 cases, of whom 71.6% had at least one first-degree relative with neurotic traits, psychopathy, psychosis, epilepsy, mental deficiency, or insanity. In a series of 400 records of non-combat neurosis a positive family history was found in 69% of the 248 cases for whom information was given, 60% having at least one unstable first-degree relative. The distribution of such relatives is shown in Table IV, and rather lends colour to the view that in some families there is an inherent underlying defect, which may manifest itself outwardly in a variety of forms of unstable conduct. Thus the high percentage—71.6—of battle exhaustion cases with an adverse history of first-degree relatives might be accounted for by the fact that, while such individuals adapt themselves more or less successfully to their normal environment, any extraordinary situation exerts a selective action and brings them to notice.

Apart from adverse hereditary factors, a history of previous neuroticism was often found. Compared with 66 records of normal childhood there were 237 in which one or more neurotic traits were mentioned, including 17 who were dull and backward; the frequency with which the symptoms occurred was: "nervy" or neurotic, 119; fears, 50; somatic symptoms, 46; shy and solitary, 39; moody, 16; sleep disturbance, 14; breakdown, 10. It was not possible from hospital records to obtain comparative frequencies of family or personal abnormalities in any group of "normal" men, since questions on these matters are rarely put to patients admitted for wounds and injuries.

It has been found that the rate of breakdown is low among the civilian population (Ballard and Miller, 1945), and this is attributed to a better ability to bear strain among familiar surroundings. The rate is also low among submarine crews, despite the dangers of their work.

With a view to seeing whether one type of unit or another was more productive of breakdown cases, the 500 battle exhaustion cases were analysed by units and compared with a similar analysis of 5,000 injury cases from Western Europe.

TABLE IV.—*Distribution of Unstable Relatives among Men with Battle Exhaustion and with Non-combat Neurosis*

Type of Disability	Battle Exhaustion										Non-combat Neurosis									
	Father only	Mother only	Father and Mother	Father and Sibs	Mother and Sibs	Father, Mother, and Sibs	Sibs	Other Relatives	Family Unspecified	Total	Father only	Mother only	Father and Mother	Father and Sibs	Mother and Sibs	Father, Mother, and Sibs	Sibs	Other Relatives	Family Unspecified	Total
Mental disease*	2 (1)	2 (2)	2 (2)	—	—	6 (2)	5 (4)	2 (2)	—	19	3 (2)	—	1	1 (1)	5 (3)	1	3	5 (4)	—	19
Epilepsy	—	1	—	—	—	—	3	—	—	4	1	—	—	2	—	1	6	4	—	14
Psychosis	—	2	—	—	—	—	—	—	—	2	5	1	2	—	—	2	1	3	1	15
Neurosis	14	40	23	5	11	11	9	4	9	126	20	43	17	20	21	22	21	3	14	181
Psychopathy	1	1	3	—	—	1	—	2	2	10	4	2	—	2	—	7	—	—	—	15
No. of men with adverse family history	17 (14%)	46 (38%)	14 (11·6%)	3 (2·5%)	4 (3·3%)	6 (5%)	16 (13·2%)	4 (3·3%)	11 (9·1%)	121 (100%)	33 (19·4%)	46 (27%)	10 (5·9%)	12 (7·1%)	12 (7·1%)	10 (5·9%)	26 (15·3%)	6 (3·5%)	15 (8·8%)	160 (100%)

* Under this head figures in parentheses denote the number under treatment in mental hospitals.

In only a few cases was the difference between the numbers derived from the two samples very much more than that due to the chance involved in sampling. In the Infantry and R.E.M.E. the incidence of battle exhaustion cases was significantly less than that of all injuries, while in the Paratroops, R.A.M.C., and A.C.C. it was higher. Hence it does not appear that there is any distinction between offensive and passive units in the proportion of breakdowns.

The predominant symptoms accompanying breakdown were somatic, both in the battle exhaustion cases and in those of non-combat neurosis. While both showed a high incidence of symptoms referable to the nervous system and special senses, the latter showed a much higher frequency of symptoms in the gastric and genito-urinary systems. The incidence of sleep disturbance was higher in battle exhaustion cases, probably due to 13.4% of all patients having battle dreams. The percentage frequency of the various symptoms is given in Table V.

TABLE V.—*Frequency of Symptoms per 100 Patients with Battle Exhaustion and Non-combat Neurosis*

Symptoms	Battle Exhaustion	Non-combat Neurosis
Somatic symptoms :		
Nervous system	94·2	72
Special senses	31·6	40
Cardiovascular and glandular	1·2	19
Respiratory	0·4	12
Upper gastro-intestinal tract	4·6	27
Abdomen	6·6	11
Genito-urinary	1·2	40
Limbs	4·6	7
General	7·0	8
Sleep disturbance	32·4	24
Fears	14·8	17
Depression	11·6	14·5
Moodiness	8·6	24
Suicidal tendencies, etc.	0·4	2·5

Various reasons were given by the patients to account for their breakdown: 167 could not face shelling, 56 complained of blast, 48 broke down when their friends were killed or injured, 16 were exhausted by being in the front line for days on end, 14 could not endure horrible sights, 10 were trapped in burning vehicles or buried alive, 7 gave domestic worry as a reason, 5 broke down when separated from their unit; only 3 admitted to a fear of being killed or wounded, and one complained of inability to keep up with younger men. After treatment it was found necessary to discharge 5.6% of the patients from the Army; 17.6% were returned to duty, and the rest recategorized or treated under the annexure scheme.

The analysis made here does not suggest that age, length of service, previous battle experience, and type of unit are factors affecting the incidence of combat neurosis, but rather that the causative agent is an inherited predisposition to one or another form of instability.

Summary

A statistical analysis is presented of a random sample of 500 cases of battle exhaustion from Western Europe.

Distributions according to age, duration of treatment, and length of service are given.

A comparison is made with 400 patients admitted for non-combat neurosis.

I am indebted to Dr. Bernard Hart, Consultant Adviser to the E.M.S., Sir Francis Fraser, Director-General, E.M.S., and Dr. Percy Stocks, General Register Office, for their help and suggestions.

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Routine medical inspections to the number of 13,782 on the children attending the primary and secondary schools of Liverpool have shown excellent nutrition in just over 5% of the children, and that in 93.8% the nutrition could be assessed as normal. The proportion in whom the nutrition was slightly subnormal was 1.15%, and in 0.02% it was considered to be bad. These results are given in a report on the work of the School Health Service submitted to the Liverpool Education Committee by Dr. W. M. Frazer. A study has also been made on the school-children from the point of view of physical measurement, from which it appears that at the present time both boys and girls, for the respective age-groups, were heavier than the boys and girls in 1911. The boys aged 12 are, on the average, 12.4 lb. (5.6 kg.) heavier and the girls 10.2 lb. (4.6 kg.).

ABACTERIAL PYURIA PRESENTING AS "URETHRITIS"

BY

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In view of the increasing recognition given to this clinical syndrome (Donovan, 1945; Peters, 1946), the records of these cases, noted over a period of three months at a military hospital in the United Kingdom, are presented in detail. I trust this will lead to a better understanding and treatment of cases previously labelled "urethritis" or "cystitis" of unknown origin.

The patients reported sick, or were referred to a special treatment centre, on account of a persistent urethral discharge. Two cases had been seen on previous occasions and were given courses of sulphathiazole, urethral irrigations, and intravenous fever therapy (T.A.B. vaccine), but with no permanent relief from their symptoms.

Three Case Histories

Case 1.—Pte. X, aged 25, seven years' service, had gonorrhoea in 1940, and mild synovitis of the left knee since April, 1945. He first noticed a urethral discharge, accompanied by an increasing frequency of micturition, with the passing of cloudy urine, in May, 1945. He had been treated at three different special treatment centres in the U.K. in June, August, and October, 1945, for non-specific urethritis, with the usual sulphathiazole courses, but with no permanent relief. Examination on Nov. 8, 1945, revealed scanty urethral discharge, mild circinate balanitis, uniform turbidity of bladder urine after acidification, mild synovitis of left knee, with little or no pain on movement; rectal examination, N.A.D. An early morning urethral smear showed numerous pus cells and a few epithelial cells. Urine: pus cells, +++; albumin, +; aerobic culture sterile. A radiograph of the knee revealed no bony changes. Kahn and gonococcal complement-fixation tests negative. Urethroscopic appearances and prostatic secretions were normal. On Nov. 9, 25 million units of T.A.B. vaccine (Army laboratory preparation) were given intravenously. A good pyrexial response, 103° F. (39.4° C.), was obtained, but with no clinical improvement. On Nov. 13, 15, 17, and 24, 0.3 g. of neoarsphenamine were given intravenously (total 1.2 g.). Frequency ceased and the urine cleared within 48 hours of the first injection. No clinical change was noted in the knee condition. A follow-up one month later revealed no recurrence of urinary complaint; knee i.s.q.

Case 2.—Pte. Y, aged 29, five years' service, had "urethritis" on Oct. 10, 1945. He was treated with sulphathiazole (20 g.), silver nitrate (1:3,000), and irrigations twice daily, and was apparently cured. When first seen on Nov. 6, a diagnosis of non-specific urethritis was made on account of the urethral discharge. He was given 25 million units of intravenous T.A.B. vaccine; pyrexial reaction, 102° F. (38.9° C.), and urine cleared. He was discharged to duty and surveillance. On Nov. 24 he reported sick with recurrence of urethral discharge and marked frequency of micturition. Examination revealed muco-purulent urethral discharge, uniform turbidity of bladder urine after acidification, and mild almost painless synovitis of right knee (a past history of trauma to the knee was admitted); rectal examination, N.A.D. An early morning urethral smear showed numerous pus cells and a few epithelial cells. Urine: pus cells, +++; albumin, +; aerobic culture sterile. A radiograph of the knee revealed no bony injury or disease. Kahn and gonococcal complement-fixation tests negative. Urethroscopic appearances and prostatic secretions were normal. From Nov. 25 to 27 he was given 20 g. of sulphathiazole, with no clinical improvement. On Dec. 3, 5, 7, and 14, 0.3 g. of neoarsphenamine were given intravenously (total 1.2 g.). Frequency ceased, and the urine cleared within 48 hours of the first injection. No clinical change was noted in the knee condition. A follow-up one month later revealed no recurrence of the urinary complaint; knee i.s.q.

Case 3.—Pte. Z, aged 22, two and a half years' service, had no past history of V.D. He was exposed to risk of infection on Oct. 13, 1945. He reported sick with a urethral discharge and frequency to a special treatment centre on Nov. 26. All tests for active V.D. were negative. He was transferred to the surgical ward for treatment of "cystitis." Urine: pus cells, +++; albumin, +; aerobic culture sterile. Cystoscopy revealed a contracted bladder, capacity 3 oz. (90 ml.), with an acute inflammatory condition of the bladder mucosa. He was given 25 g. of sulphathiazole over five days, without any clinical improvement. Examination on Dec. 11 revealed muco-purulent urethral discharge and uniform turbidity of bladder urine after acidification (some shreds in the specimen); rectal examination, N.A.D. An early morning urethral smear showed

numerous pus cells. A further examination of the urine gave similar results (culture sterile). Kahn test negative. Urethroscopic appearances and prostatic secretions were normal. On Dec. 13, 15, 17, and 28, 0.3 g. of neoarsphenamine were given intravenously (total 1.2 g.). Pronounced clinical improvement was noted within 48 hours of the first injection. The urine became completely clear after the third injection. A follow-up one month later revealed no recurrence of urinary complaint.

Discussion

These cases had all received the recognized treatment for cystitis and urethritis, but in no case had a permanent cure been effected. Specific urethritis was excluded. A cystitis was assumed in all cases, but no organism could be detected after repeated attempts at culture. In the two cases presenting a synovitis of the knee old gonococcal infection was excluded.

Causation is discussed by Donovan (1945). Renal causes were excluded in his series of cases, and a virus cause was suggested; but I question whether organic arsenicals have any therapeutic value in a virus infection (cf. Peters, 1946). According to Lydon (1945) recurrent attacks simulating pyelitis occur during the course of *Trichomonas vaginalis* infection in the male. In view of this I venture to suggest *T. vaginalis* as a possible cause of "abacterial pyuria." Since I had not seen that article before treating the cases, *T. vaginalis* was not excluded as a possible cause of the condition. Stovarsol, an organic arsenical, is widely used in the treatment of this infection in the female. Therefore it is not unreasonable to assume that an intravenous arsenical may reach and destroy such an organism attacking the bladder mucosa in the male.

As the three cases in question had received prolonged treatment by the recognized therapeutic measures, with no permanent relief, the effect of intravenous neoarsphenamine is dramatic in its action. Follow-up was limited to one month because of constant troop movements, etc., but no recurrences of the condition were reported. It would be interesting to know whether any other investigations have been carried out exploring the possibility of *T. vaginalis* as a potential cause of "abacterial pyuria."

Summary

The clinical picture and the histories of three soldiers, originally diagnosed as cases of "non-specific urethritis" but who were found to be suffering from "abacterial pyuria," are recorded in detail.

Causation of this syndrome is discussed. All patients responded dramatically to a course of four injections of 0.3 g. neoarsphenamine given on the first, third, fifth, and twelfth days.

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At a meeting of the British-Yugoslav Association, with Mr. Somerville Hastings, M.P., in the chair, Mr. J. N. Barron, the retiring chief surgeon to the U.N.R.R.A. plastic surgical unit at the Belgrade Hospital, spoke recently on medical problems of rehabilitation in Yugoslavia. He emphasized that the terribly high rate of amputation in that country, affecting all sections of the people, was the result of incredible hardships of mountain resistance over a period of years in the struggle against the common enemy. Since the Allies gave both material and moral support to the resistance, by which countless Allied lives were saved, some responsibility rested upon them to help the Yugoslavs to solve their medical problems with regard to the maimed, blinded, and wounded adults and children. With the lack of doctors and of medical supplies they were faced with an exceedingly grave situation. So far as Mr. Barron could estimate, there were well over 15,000 men and women who had lost their legs as a result of war injuries. The plastic surgery unit had been endeavouring to cover the whole field of accident surgery; this was an immense problem and the hospital had commitments of over 10,000 cases, but in six months Mr. Barron's team had been able to look after less than 400 of these. The primary function of the team had been to train Yugoslav personnel; the treatment of patients, notwithstanding its importance, was secondary to the great need of training others who could carry on the work. A major problem in surgery was that of the thousands of war-injured children. Asked about the future of plastic surgery in Yugoslavia when U.N.R.R.A. closed down he said he wished to stir up interest in Britain, the United States and elsewhere, so that the work now being fathered and financed by the Administration could be carried on. In his judgment Yugoslavia needed help in a programme to solve its surgical problems, and this should extend over the next eight or ten years.

Reviews

THE BRONCHIAL TREE AND LUNG ABSCE

The Anatomy of the Bronchial Tree. With special reference to the Surge of Lung Abscess. By R. C. Brock, M.S., F.R.C.S. Oxford Medical Public tions. (Pp. 96; illustrated. 42s.) London: Oxford University Press. 194

In this volume Mr. Brock attempts to achieve two obje first to give a coherent account of the anatomy of the bronc tree and its implications, and secondly to furnish a to graphical guide to the surgeon who has to drain lung absces Until recently the anatomy of the bronchial tree has b neglected by the anatomist, and the account of it given in book not only gives a clear picture of our present state knowledge, but adds much original work by the aut which has previously only been available in several journ Particularly noteworthy are his accounts of the distribution the bronchi of the axillary area of the upper lobe and thos the lingula; in the former, he adopts a terminology whic rather different from that usually used, but he gives good reas for it. The last chapter includes a description of the c moner abnormalities of the bronchi which is very interes and useful.

To the physician, his demonstration that in the recumb position lipiodol normally flows into areas in the upper l of the lung where spreads of tuberculosis frequently oc affords a possible explanation of some difficult problems. sections on the surgical treatment of lung abscesses are ex lent, and in no other book is such a clear and comprehen guide available. As a work for the specialist physician surgeon it is difficult to praise it too highly, and it will proba become the standard textbook on the subject. The reproc tions of bronchograms, however, are so good that it seem pity that they are not separately indexed so that they could used for reference by those who have to interpret bronc grams less frequently.

Most readers are heartily tired of the utility type of proc tion of books generally available at present; but the way which this volume is produced brings the hope that it is forerunner of a return to pre-war standard. The *x*-ray pictu come out very well and show the conditions described clea some of the lipiodol shadows show evidence of being touc up, but only sufficiently to clarify them. The book is one the few which can be recommended without any qualifica to all who are interested in its subject.

WORK ON STROPHANTHIN

Strophanthin. Clinical and Experimental Experiences of the Past 25 Yea By Bruno Kisch, M.D. (Pp. 158. No price given.) New York Cit Brooklyn Medical Press, 2700, Broadway.

The preface states that this monograph has been written the purpose of urging the American medical profession reconsider the question of the clinical application of stroph thin. The author was previously professor in Cologne came under the influence of the late Albert Fraenkel, who in duced strophanthin for the treatment of heart disease in 19 Fraenkel was impressed by strophanthin as an agent for in venous injection which had much less cumulative action t the glycosides of digitalis, and of which injections could given with safety at intervals of 48 hours, knowing that by t the strophanthin of the previous injection had been comple excreted. Owing to deaths which followed the use of too h doses, few doctors were converted to the use of strophant though in 1925 Vaquez succeeded to some extent in populariz its use in France. In this country strophanthin was known be a substance of varying potency; in the *British Phar copoeia* of 1932 a standardized preparation was included, by that time digoxin was available, and by reason of Lew interest took a prominent place as a heart remedy, which it certainly retain. Digoxin is, however, for the most unknown on the Continent of Europe and in America.

This monograph gives a less interesting account of stroph thin than the glycoside deserves. Of 118 pages of text, 79 devoted to papers on the pharmacological action in ani tissues, which are so numerous that often the account beco

a catalogue; the remaining 39 pages on clinical action fail to show in what respects strophanthin is superior to digitalis, or to make any comparison with digoxin. It is significant that digoxin does not occur in the index, and is not mentioned in the text. Fraenkel's own writings provide a much more convincing case for the view that strophanthin has a useful place in medical practice, and it is unlikely that this monograph will achieve its declared aim. The English is in several places defective.

MICRO-ANALYSIS IN MEDICAL BIOCHEMISTRY

Micro-Analysis in Medica Biochemistry. By E. J. King, M.A., Ph.D. (Pp. 168. 10s. 6d.) London: J. and A. Churchill. 1946.

Micro-chemical procedures for commonly determined blood constituents, developed by Prof. E. J. King and his associates during the past ten years, have been widely adopted by chemical pathologists. The advantages of micro-methods have been fully appreciated. There is a considerable saving in reagents when an analysis can be made on 0.2 ml. of blood instead of 2 ml.—not to mention the saving of labour in making up reagents. Coagulants may be omitted and samples measured with precision in capillary blood pipettes. Micro-chemical methods are particularly useful in investigations that require the taking of frequent samples.

Hitherto details of such methods were available only in the original publications. Some of the procedures have undergone further modifications and improvements by King and his colleagues since their original descriptions. All users of these methods will, therefore, welcome the appearance of this book, in which the latest recommendations for the published procedures, and also some additional methods, are brought together. Standard procedures are also included, so that the present book forms a complete set of instructions for the execution of all the determinations commonly asked for in routine laboratory investigations.

Analyses include those for whole blood, plasma, serum, cerebrospinal fluid, faeces, urine, gastric contents, and calculi. A chapter is devoted to gastric, renal, and liver function tests. Spectroscopic procedures are described. A most useful chapter on colorimetric and photometric measurements includes details for the construction and assembly of a simple direct-reading photo-electric colorimeter. Tables of normal values and abnormalities in composition of blood, with some very sensible observations on the use of the word "normal" in this connexion, form an admirable introduction to the very lucid descriptions in the analytical chapters.

Since this is a book to buy and not to borrow, the publishers are to be congratulated on the very reasonable price.

ELECTROTHERAPY AND LIGHT THERAPY

Electrotherapy and Light Therapy. With the Essentials of Hydrotherapy and Mechanotherapy. By Richard Kovács, M.D. Fifth edition, thoroughly revised. (Pp. 694; 352 engravings and a coloured plate. 42s.) London: Henry Kimpton.

It must be twenty years since Dr. Richard Kovács produced his first edition of *Electrotherapy and Light Therapy*. The present edition is the fifth, and it comes at a most opportune time, when the whole outlook of the medical profession in relation to the techniques used in rehabilitation has undergone a profound transformation.

Dr. Kovács, in his preface, states quite correctly that in 1927 "medical men practising as electrotherapists were looked upon by many of their medical brethren with suspicion, mingled with pity." Now all this is changed and the whole profession, and indeed not only the whole profession but even Ministers of the Crown, now acknowledge the value and scope of rehabilitation methods. Dr. Kovács's several editions have always moved forward with these developments. One of the great advantages in all his writings is that he never claims a physical or electrical method as a cure-all or a 100% benefactor. The techniques are well set out and the book can either be read consecutively by the aspirant to knowledge of the subject or used as a textbook of reference. It has won for itself an honoured place which it thoroughly deserves.

It is a pity that this edition was in the press at the same time as Dr. W. S. C. Copeman's remarkable paper on fibrositis, but it is interesting to see that Fig. 296 bears striking testimony in support of Dr. Copeman's theory. It is a pity, too, that war conditions have prevented the author from paying a visit to this country before publication, as had he been able to do so doubtless a number of the advances made during the war here, both in methods and in apparatus, would have been incorporated. In these respects the book is not fully complete for the candidate for the Physical Medicine Diploma. But these small defects in an otherwise excellent and very readable treatise will doubtless be remedied in a subsequent edition, which it is hoped will soon be on its way.

PATENT MEDICINES

Patent Medicines: An Indictment. By Hugh Linstead, M.P. (Pp. 32. 1s.) London: National News-Letter, 162, Buckingham Palace Road, S.W.1.

This is a useful and temperate statement on the position of "patent medicines" in this country, with suggestions for further reforms. Coming as it does from the Secretary of the Pharmaceutical Society of Great Britain, it carries an authority justified by the prolonged work of that body on this problem. The pamphlet has left on this reviewer the general impression that "it does move," if only slowly. Mr. Linstead says that the real "secret" remedy no longer exists, and this, it may be said, is thanks largely to the pioneer work of the B.M.A. in publishing its books on *Secret Remedies* and *More Secret Remedies*. The law now insists on publication of the formula, and this is a great check on "exaggerated claims." Mr. Linstead deals with the great difficulties of controlling the ingenuity of the advertising agent, and points out that his present efforts are mainly devoted to a subtle rousing of a sense of fear—fear of what symptoms may lead to if not abolished by the medicine the potential user is advised to take. Only those who have tackled the job of censoring such advertisements can realize the devilish ingenuity of the advertiser.

The booklet very fairly shows that the better elements of the proprietary trade, of the newspaper proprietors, and of the Advertising Association, have done much to abolish the worst evils of the business; but, as he points out, these bodies are voluntary associations and have no direct control over the outsider. An interesting point is raised both by Commander King-Hall in his preface and by Mr. Linstead—they suggest that there is something wrong in allowing advertisements which would compete with the new Health Service. The Government "cannot permit every device of modern publicity to incite the citizen to ignore a Service which the State provides for him and to accept in its place one provided by the advertiser." It is not easy to reconcile this view with the statement on page 24 which says "it is essential to preserve the right of the citizen to treat his own ailments." Thus we have the usual clash between the duty of the State and the rights of the individual. There is no blinking the fact that there is a danger to individual initiative if the citizen is not to be allowed to treat his own symptoms at his own risk because the State has provided something which *it*, but not *he*, may think better for him. However, the dangers of self-treatment are there and it is necessary to protect the public from false or exaggerated claims. Mr. Linstead, in addition to providing a careful summary of what has been done, makes several suggestions for further reforms when Parliament can find the time.

Notes on Books

The full text of Prof. G. GREY TURNER's Hunterian Oration entitled *The Hunterian Museum Yesterday and To-morow*, which he gave last year at the Royal College of Surgeons of England, has now been published, with 43 illustrations, as a book of 92 pages by Cassell and Co., Ltd., price 15s. Many of those who read the shortened version in these columns on Feb. 24, 1945, will like to read and possess the oration *in extenso*. It is an interesting contribution to medical history, and the orator's ideas for the future are well worth pondering.

Practical Anaesthetics (2nd edition, Baillière, Tindall and Cox, 10s. 6d.), by Dr. J. Ross MACKENZIE, shows evidence of thorough revision. In many places the text has been elucidated by the inclusion of additional matter. The book will be helpful for students, house-surgeons, and the occasional anaesthetist.

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WORLD MEDICAL ASSOCIATION

Thirty-one countries sent representatives to the three-day conference held last week at B.M.A. House under the joint auspices of the Association Professionelle Internationale des Médecins and the British Medical Association. Under the skilful guidance of Sir Hugh Lett, who presided throughout the three days, the conference managed to avoid the shifting sands on which so many other international projects so easily come to grief. Sir Hugh was aided in his task by the readiness of those who had done so much for the A.P.I.M. to merge their identity in the wider organization established by the conference under the comprehensive title of World Medical Association. The objects of this new Association are (1) to promote closer ties between the various international medical organizations; (2) to study the problems which confront the medical profession in different countries; (3) to organize exchange of information; and (4) to establish relations with and present the views of the medical profession to the World Health Organization and UNESCO. It was at the suggestion of Lord Horder, who attended as observer for the American Medical Association, that according to the following agreed form of words the first object was "to promote closer ties among the national medical organizations and among the doctors of the world by personal contact and all other means available in order to assist all peoples of the world to attain the highest possible level of health." There was some discussion on whether the new Association should concern itself with scientific medicine; but the view prevailed of those who pointed out that scientific medicine was well cared for by various national academies and scientific societies. On the last day of the conference a Committee of nine was set up to work out the details of the constitution and to prepare the agenda for the next conference, which is to be held in Paris. The official languages of the World Medical Association are to be English and French. Dr. Charles Hill, Secretary of the B.M.A., and Dr. P. Cibrie, of La Confédération des Syndicats Médicaux Française, were elected joint secretaries. The following Committee was appointed to prepare the ground for the next conference: J. A. Pridham, Great Britain; T. C. Routley, Canada; O. Leuch, Switzerland; F. Decourt, France; P. Glorieux, Belgium; D. Knutson, Sweden; L. G. Tornel, Spain; A. Zahor, Czechoslovakia; and I. Shawki Bey, Egypt.

It might be thought that medicine was already becoming well enough represented on the international stage through W.H.O., UNESCO, and indeed through the Food and Agricultural Organization which, under the inspiring guidance of Sir John Boyd Orr, is setting such a wholesome example to U.N.O.; but all those who attended the conference last week were left in no doubt at the end of three days' discussion about the need for a world-wide organization of medical men and women, and came away with the conviction that this new body will not be content with passing high-sounding resolutions which by their vagueness become untranslatable into action. The World Medical Association means business, and the delegates from the various countries came to London last week because they felt the need for the support of their confrères in other countries against the forces they uneasily feel to be menacing the age-old traditions and freedoms of the medical profession. Dr. F. Decourt even expressed doubts about the intentions of W.H.O. and UNESCO. Dr. Decourt indeed said one of the reasons for establishing the World Medical Association "was to defend medical practitioners whose liberty was being menaced in many countries." He was, however, assured by Dr. Chisholm, who represented W.H.O., that this organization would not interfere with the medical practitioner in any country. In those valuable contacts that take place outside the official meetings it was clear that doctors from more than one country were gravely concerned about the relationship between the State and the medical profession, and were anxiously watching the developments of the medical services in this country, feeling that what happens in Great Britain may have a profound effect on the evolution of medical services in other nations. Membership of a world-wide organization will heighten the sense of responsibility of the numerous national bodies constituting it and will lend overwhelming strength to the constituent bodies when they severally have to deal with the body politic.

The World Medical Association is in its early infancy. Under the energetic direction of its English and French secretaries it will, we may feel sure, grow speedily and painlessly into a full-grown adult. Once the details of constitution have been worked out W.M.A. will no doubt get quickly on to a fact-finding investigation which will collect the data, and then contrast and compare the systems of medical organizations and administration in different countries. Dr. T. C. Routley, representing the Canadian Medical Association, said early in the proceedings that he wanted to see an organization "which would signify the unity of doctors all over the world." This also was the wish of the thirty-one nationals sitting in B.M.A. House last week. It now remains to see this unity embodied in practical and practicable terms and then to see that those things which doctors in all countries hold to be fundamental principles in professional life are preserved in this atomic age.

CANCER SCHEME FOR NORTHERN IRELAND

Northern Ireland is contemplating a Cancer Act similar to the one which became law in Great Britain in 1939. The cancer death rate in Northern Ireland has risen almost continuously during the last twenty years. No doubt the rise, there as elsewhere, is partly accounted for by the larger proportion of the middle-aged and elderly in the population, also by more precise diagnosis and death certification, but the figures have caused concern among public health authorities and in the Ministry of Health and Local Government. Recently the Ministry invited Lord Amulree, M.D., of the British Ministry of Health, Dr. Ralston Paterson, director of the Holt Radium Institute, Manchester, and Mr. G. F. Stebbing, honorary secretary of the National Radium Commission, to visit Northern Ireland, where they discussed the problem of cancer detection and treatment with Government officials, hospital authorities, and representatives of the medical profession. Many of their suggestions, based on experiences in Great Britain, have been incorporated in a memorandum on the measures to be taken to deal with cancer in Northern Ireland which has been prepared by the Health Advisory Council of the Ministry, a body of some twenty members of whom about half are medical men.

One condition which British experience suggests is that an adequate cancer service must be based on a large unit of population, not less than one million; therefore in Northern Ireland, with a population of not much more than one and a quarter million, there is room for only one cancer organization, with its headquarters obviously in Belfast. It is proposed that the British plan be followed, whereby financial responsibility for cancer schemes is placed on county and county borough councils, aided by grants from the national Exchequer. These local authorities will naturally be represented on the controlling organization, together with the Ministry, the medical profession, and the two Belfast hospitals, the Royal Victoria, and the Mater Infirmorum, where most cancer patients who come under hospital treatment are received (though it is estimated that 75% of the deaths from cancer take place in patients' homes). The centre, both for surgical and radiotherapeutic treatment, if these recommendations are followed, will be set up in the grounds of the Royal Victoria Hospital, though it will be a separate administrative unit. It will accommodate in-patients, about 50 in the radiotherapeutic department and 100 in the surgical, as a start, and it will have a dormitory annexe for out-patients from a distance who do not need admission to hospital wards. An essential part of the scheme will be diagnostic clinics at selected hospitals in various parts of the country, and it is considered that in the remotest areas no patient should have to travel more than twenty or thirty miles to reach such a clinic. Other features of the scheme will be institutional accommodation, where this is necessary, or domiciliary nursing and other aid if more appropriate, for untreatable cases, and a uniform system of records and follow-up. It is hoped to establish co-operation with the Belfast Medical School with a view to courses of undergraduate and postgraduate instruction in the diagnosis and treatment of cancer; with Queen's University with a view to the institution of cancer research; and with organizations in Great Britain, especially the National Radium Commission. The charter of the Commission does not cover Northern Ireland, and it is suggested that an amendment might be sought in that respect and that it might be possible for Northern Ireland to hire radium from the Commission instead of making fresh purchases.

To organize the entire diagnostic and treatment service a whole-time chief officer would be appointed. This officer, it is thought, should be a radiotherapist with extensive experience in that specialty, as well as some experience in surgery. A staff of whole-time officers would be attached to the radiotherapy department. For the surgical department there would be a panel of consultants holding part-time posts, with junior whole-time officers acting under their direction. The responsibility of the general practitioner in the detection of cancer is strongly emphasized in the memorandum. It is fully appreciated that the success of the scheme will largely depend upon his equipment and vigilance, and the Advisory Council stresses that there is nothing in its recommendations which is intended to imply that any duties of the general practitioner should be taken out of his hands. Through the Northern Ireland Branch of the British Medical Association practitioners will be represented on the controlling body, and immediate steps are proposed for postgraduate training, in which, it is suggested, experts from Great Britain might be invited to come over and assist.

The full development of the scheme, which, of course, will call for legislation, may take a couple of years and may possibly be delayed until it can form part of the framework of a National Health Service for Northern Ireland. Meanwhile some temporary arrangements are proposed whereby a certain number of staff may be recruited, diagnostic clinics set up, special provision be made at some Belfast hospitals for cancer treatment by means of surgery, and cases which need radiotherapy may be concentrated for the time being in the emergency hospital at Musgrave Park. The memorandum strikes a note of urgency, and this is echoed in a foreword by the Minister of Health and Local Government himself, who urges the medical profession, hospital managements, and local authorities to lose no time in making a unified and concentrated attack on a disease which is second only to heart diseases among the principal causes of death.

THE MIASM OF MARASMUS

Apparently as a reflection of an increased incidence of enteritis in the general population, diarrhoea in mothers and babies has of late been observed in the lying-in wards of several hospitals in this country. A typical outbreak described by Brown, Crawford, and Stent[1] was referred to in an annotation[2] under the title of "What is Gastric Flu?" This epidemic appeared in the general and maternity wards in a thousand-bedded hospital serving a large borough in May, 1945, and the facts are worth review. During a 15-week period 20 patients were found to have had diarrhoea on admission, and 91 persons, inclu-

[1] *British Medical Journal* 1945, **2**, 524.
[2] Ibid., 1946, **1**, 439.

ding 27 nurses and 25 babies, developed watery diarrhoea apparently contracted in the hospital itself. Vomiting occurred in 46 of the total of 111 cases, and pyrexia was present in 32 of the 89 adults but not in the babies. Twenty-five of the adults had nausea. The pattern of the incidence was that of a chain outbreak passing from two patients admitted to a surgical ward with suspected abdominal emergencies, through, in turn, a ward maid, a nurse, babies, mothers, medical officer. There were no significant bacteriological findings except that, in the fourth and fifth weeks, *B. dysenteriae* (*Sonne*) was recovered from fourteen of twenty cases of diarrhoea in one general ward and appeared to be an intercurrent infection affecting this ward only.

An inquiry by questionary of the practitioners in the borough showed that the disease, which they considered to be a new phenomenon clinically distinct from bacillary dysentery, had been widespread among the adult population; that it was characterized by sudden onset of profuse watery diarrhoea; that the outbreak had started insidiously; and that there had been two or three waves in April, May, and June, 1945. No deaths were reported. The description of this outbreak corresponds closely with that of the "viroid dysentery" of Reimann *et al.*,[3] which had been transmitted to human volunteers by inhalation of nasopharyngeal washings and faecal filtrates. The epidemic was instructive because: (1) The maternity unit at the hospital contained 66 beds and 66 cots in 3 wards, yet one of these escaped entirely, although in the 2 adjacent wards and nurseries 65 persons were involved. (2) All babies were breast-fed, apart from sterile water given with sterile precautions, yet on numerous occasions mothers only or babies only were affected; if both, babies showed signs before mothers, on an average 4.4 days earlier. (3) The outbreak terminated spontaneously without closure of the maternity unit. (4) It in no way resembled in severity a previous epidemic of neo-natal diarrhoea at the same hospital a few months before, when the mothers had escaped. Although a comparison was made both in Brown's paper and in the previous annotation[2] between the condition and the epidemic nausea and vomiting described by Bradley,[4] further experience suggests that this condition of watery diarrhoea is distinguishable clinically and epidemiologically from the latter disorder.

We are now informed that in some of the 1946 outbreaks of this apparently novel condition of watery diarrhoea in mothers and babies there has been an appreciable mortality among the infants: in one lying-in hospital 12 of 77 affected babies died. The characteristic orange-coloured stools of the "epidemic diarrhoea of the newborn" described by Ormiston[5] have not been observed. There has been no evidence of the common respiratory or pyogenic infections in the recent outbreaks, and the diagnosis of parenteral enteritis could not be applied. Sulphonamides were ineffective, but several of the fatal cases showed a biphasic course: after the initial loss of weight and diarrhoea the babies improved until, comparatively suddenly, they collapsed and died. This biphasic course, which may also exist in parenteral enteritis, is referred to by High, Anderson, and Nelson.[6] They had previously discussed therapy, in particular the correction of acidosis and maintenance of fluid balance (Anderson, Nelson[7]), but they now report less favourable results. They complain about the difficulty of establishing the diagnosis of "epidemic diarrhoea of the newborn" in the initial cases of an outbreak. This experience is shared by others, and for that reason we should err on the side of safety and treat every infant with diarrhoea, or in fact sudden loss of weight, as infectious. There is another difficulty of diagnosis: it looks as if there were many clinical entities of different aetiology, causing outbreaks of neo-natal diarrhoea. Until the tangle has been unravelled observers should record complete descriptions of all the clinical and epidemiological features of an outbreak. By itself, the term "diarrhoea of the newborn" has little more meaning than "marasmus," or "atrophy," or "decline," and our concept of the cause or causes is not appreciably removed from the "miasm" stage. Systematic observation and record offer the most speedy escape from the present confusion.

[3] *J. Amer. med. Ass.*, 1945, **127**, 1.
[4] *British Medical Journal*, 1943, **1**, 309.
[5] *Lancet*, 1941, **2**, 588.
[6] *J. Pediat.*, 1946, **28**, 407.
[7] Ibid., 1944, **25**, 319.

PENICILLIN TREATMENT OF MENINGITIS

The treatment of meningitis is technically the most difficult sphere of penicillin therapeutics, and for obvious reasons few extensive studies have been made of it. The largest series of published cases is that described by a distinguished team of investigators at Philadelphia—W. L. White, F. D. Murphy, J. S. Lockwood, and H. F. Flippin[1]—and comprises 71 cases, of which 50 were pneumococcal. The mortality among the latter was 64%, which, as the authors remark, does not appear to represent much improvement on the results of earlier methods of treatment. Unfavourable factors were advanced age—of 17 patients over 50 years old 15 died—and the continued existence of an uncontrolled focus in the ear or elsewhere from which the meningeal infection originated. This series includes patients—evidently treated in early days when penicillin was scarce—who received doses which would now be considered inadequate. Seven of these patients, and 7 out of 12 cases of meningococcal meningitis, received penicillin by the intramuscular or intravenous route only and not intrathecally.

Since this paper was published it has become recognized that intrathecal injection is an imperative necessity; penicillin, unlike sulphonamides, does not pass into the cerebrospinal fluid from the blood in anything like sufficient concentration. That this is true of the normal meninges has been accepted for some time. W. McDermott and R. A. Nelson[2] examined the cerebrospinal fluid of 70 patients after the intramuscular injection of penicillin and found only a trace after an enormous dose had been given, ordinary doses not appearing in the fluid at all. Such doubt as there has been has resulted from the statement that the existence of a meningitis enables the penetration of penicillin into the cerebrospinal fluid to take place: this has been asserted by several authors, and a few successful results have been claimed in the treatment of meningitis by intramuscular injections of penicillin alone. The truth in this matter seems to have been finally settled by J. M. Kinsman and C. A. d'Alonzo.[3] These authors, after again demonstrating that in patients without meningitis no penicillin reached the meninges after intramuscular injection, tested the effect in meningitis by using this method of treatment in 9 patients with cerebrospinal fever. This bold step was rewarded by affording a clear answer: there was transitory improvement, due doubtless to the effect on an accompanying bacteraemia, but the signs of meningitis were unaffected. The temperature rose again within 24 hours, and the cerebrospinal fluid still contained as many cells as before together with living meningococci, and never more than a trace of penicillin. Sulphadiazine was then brought to the rescue and all was well.

[1] *Amer. J. med. Sci.*, 1945, **210**, 1.
[2] *Amer. J. Syph.*, 1945, **29**, 403.
[3] *New Engl. J. Med.*, 1946, **234**, 459.

The logical way of regarding this question is that meningitis has no effect on the permeability of the blood–brain barrier in the ordinary sense; such penicillin as reaches the cerebrospinal fluid in meningitis is simply that contained in the exudate itself. The much higher concentrations attainable by intrathecal injection persist, after an adequate dose, for 12 or even 24 hours, and are sufficient to control not only all coccal infections but even meningitis due to such a comparatively resistant organism as *H. influenzae*. This expectation is at least justified on theoretical grounds, and the single case of *H. influenzae* meningitis described in this *Journal* by McIntosh and Drysdale[4] affords it some support. Those seeking detailed information about the technique of treating meningitis with penicillin should consult the classical papers of Cairns and his colleagues[5 6]: they deal with pneumococcal infections, but the methods advocated apply equally to other forms. These authors' results were considerably better than those obtained in Philadelphia: of 38 patients only 9 died, and 4 of these were moribund on admission. In the later cases of this series penicillin was given intramuscularly as well as intrathecally, and sulphadiazine was given in addition. The lumbar route for intrathecal injection was found satisfactory in most cases, and an important feature of this study was the demonstration that penicillin diffuses along the cerebrospinal fluid pathways with extraordinary facility, even reaching the lateral ventricles from the lumbar region. Occasionally, when obstruction exists, cisternal or intraventricular injection may be necessary. The strictest asepsis is imperative: nowhere can penicillin-resistant contaminants in the shape of coliform bacilli do such damage as in the meninges. For these and other reasons, the penicillin treatment of meningitis must remain a serious undertaking, calling for first-class hospital facilities or their equivalent.

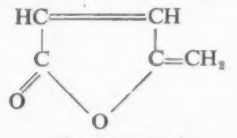
WORKING CONDITIONS IN AUSTRALIAN TEXTILE MILLS

The working conditions in Australian textile mills are liable to be much more trying than those experienced in this country, and Bulletin No. 7 of the Industrial Welfare Division of the Australian Department of National Service[7] describes these conditions at length, and suggests the most suitable remedies. The Australian climate differs greatly from area to area, and though there is little difficulty in obtaining fairly comfortable working conditions in a temperate climate such as Hobart, it is very different in Sydney and Adelaide. It is well known that the mechanical ease of the spinning process improves as the temperature and relative humidity of the air are increased, but unfortunately such increments—if beyond a moderate limit—become more and more trying to the operatives, so much so that the efficiency of their production is seriously impaired. In Australia some 50,000 textile workers are employed, many of them in old mills with obsolete plant, and in the face of world competition it is vital that they should be replaced by the best types of mill. Some of these mills already exist in Melbourne, Sydney, and elsewhere, and they are described at length in this Bulletin, with many excellent photographic reproductions. Series of tests on atmospheric working conditions were carried out in 67 mills over a fifteen-month period, and especially during the hot months of December to March. It was shown that the effects of solar radiation could be greatly reduced by improving the insulation of the buildings, a fall of as much as 10° F. in the temperature of the mill being thereby brought about. The effects of better natural and mechanical ventilation are debated, but it is admitted that on many days of the year tolerable working conditions in some towns can be obtained only by the installation of expensive air-conditioning plants. Series of charts are given showing the number of days on which the mill climate in various towns can be expected to exceed (i) the normal limits for efficient human work, and (ii) the limits which can barely be tolerated.

4 *British Medical Journal*, 1945, **2**, 796.
5 *Lancet* 1944, **1**, 655.
6 Ibid., 1946, **1**, 185.
7 Department of Labour and National Service, Nicholas Building, 37, Swanston Street, Melbourne.

BUTTERCUPS AND ANTIBIOTICS

Since the discovery that penicillin can be obtained from moulds such as *Penicillum notatum*, similar therapeutic agents have been sought in other fungi and bacteria. This search for new antibiotics[1] has included the higher plants in its scope. Osborn[2] examined 2,300 species belonging to 166 families by methods similar to those used in the estimation of penicillin, and he found substances inhibiting the growth of *Bact. coli* and *Staph. aureus* in 63 different genera. The most active substances were obtained from plants of the Ranunculaceae family, especially anemone, clematis, hellebore, and ranunculus. Lucas and Lewis[3] reported antibacterial principles, varying greatly in their potency and distribution, in the leaves of Scotch thistles, of verbascum, and of peonies, and in the fruits of plants of the rose, saxifrage, and other families. In particular, a species of honeysuckle, *Lonicera tatarica*, was found to contain a potent principle which inhibits the growth of *Staph. aureus* and *Bact. coli*, and another which suppresses coliform bacilli but not Gram-positive organisms. According to Seegal and Holden[4 5] extracts of buttercups and of *Anemone pulsatilla* showed activity against Gram-positive and Gram-negative bacteria, and against acid-fast bacilli.



Protoanemonin

The active principle in *A. pulsatilla* is protoanemonin. This substance inhibits the growth of *Staph. aureus, Bact. coli*, and *Candida albicans*, after incubation at 37° C. for eighteen hours, in dilutions of 1 : 30,000 to 1 : 100,000. Protoanemonin appears to be another member of the group of antibacterial agents which includes crepin, penicillic acid, and clavacin, all of which contain a 5-membered unsaturated lactone ring and a highly reactive double-bond system. No information is given about the toxicity of the new compound, so its possible therapeutic value is not indicated. However, judging by clavacin, its antibacterial action will probably be of more academic than clinical interest. But if a practical use were found for it, it would be pleasant to think that the anemones and buttercups which beautify our woods and fields in spring might also cure some of the sickness prevalent at that season.

1 *British Medical Journal*, 1945, **1**, 776.
2 *Brit. J. exp. Path.*, 1943, **24**, 227.
3 *Science*, 1944, **100**, 597.
4 Ibid., 1945, **101**, 413.
5 *J. bio . Chem.*, 1946, **162**, 65.

The Medical Research Council has recently received from Maj.-Gen. Sir Leonard Rogers, K.C.S.I., F.R.S., late I.M.S., a further generous addition to the endowment for research in tropical medicine with which he originally entrusted the Council in 1926. The capital value of the fund thus created is now approximately £15,000. The income is applicable to special purposes within the general field of tropical medical research.

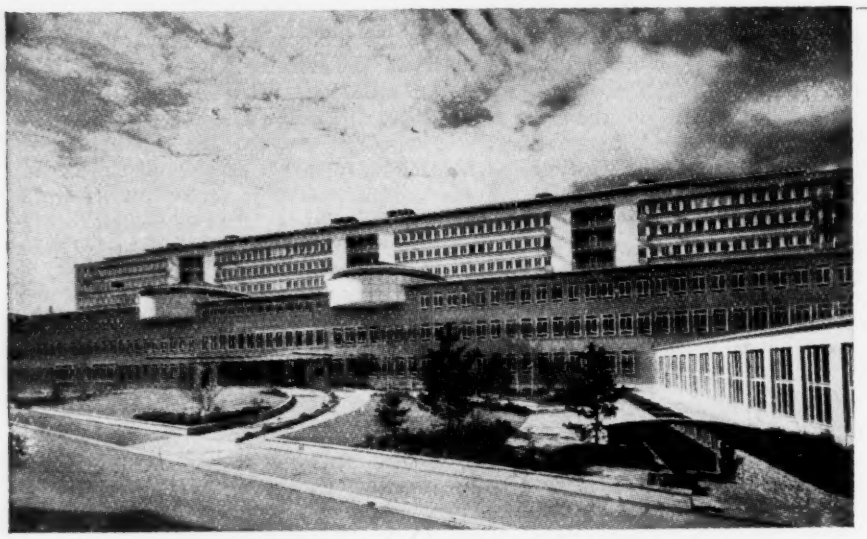


Fig. 1.—Frontage of hospital, showing entrance from the Spitalstrasse.

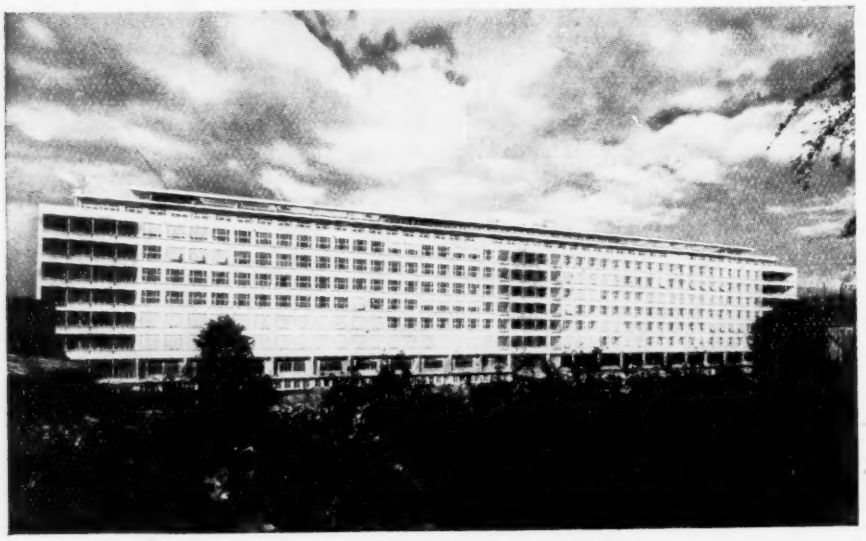
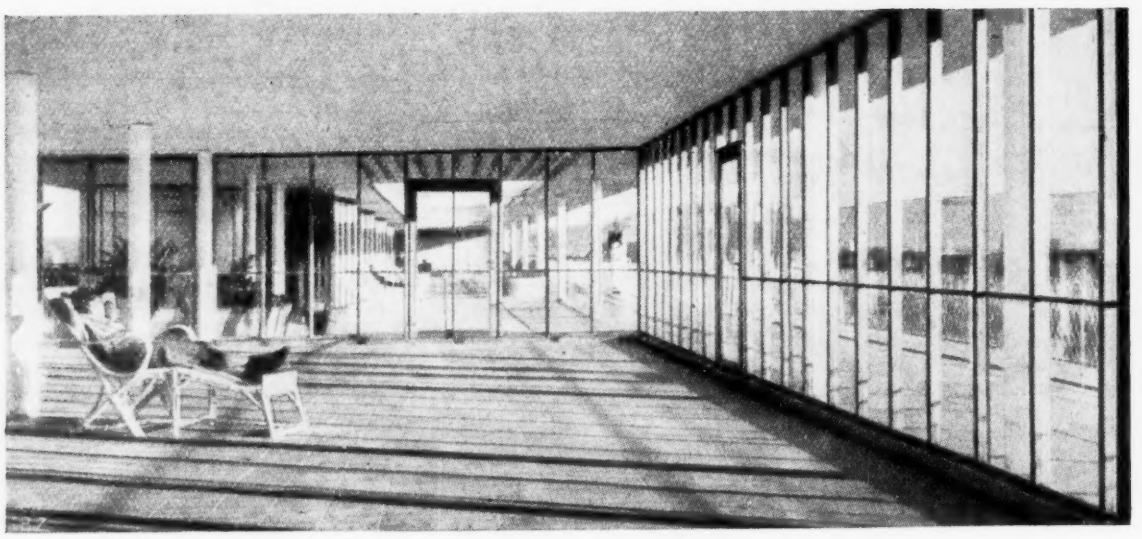


Fig. 2.—South aspect of the ward block.

Fig. 3.—Roof terrace with glass-partitioned enclosure for patients.



THE BÜRGERSPITAL OF BASLE

A LANDMARK IN MUNICIPAL HOSPITAL BUILDING

Few people who attended the British-Swiss Conference in Basle a fortnight ago could fail to be impressed by the new hospital which was opened last year. Here, so far as a quick visit allowed one to judge, was a building which in its appearance, construction, and facilities for patient, doctor, nurse, and cook approached the ideal. The few illustrations reproduced will give the reader some idea of its general layout.

When the University of Basle was founded in 1460 instruction in medicine was begun on a modest scale; and, although in those days the sick were for the most part cared for at home, there was some clinical instruction by the bedside in the Basle hospitals. Already at the beginning of the 13th century the town had two hospitals, and in 1260 another hospital was built which continued in use until 1842.

In that year reconstruction of the old and the erection of new hospital buildings were undertaken. The new then consisted of a hospital for the sick, a mental hospital, and an institution for the aged, comprising in all 332 beds, the population of Basle being at that time 26,300. The population rose to 43,540 in 1865 and in 1944 was 172,340. The number of medical students in 1842 was 19 and 562 in 1944. The growth of the town, the advance of medicine, and the increase in the number of students necessitated further buildings: the pressure on beds and services was relieved by the establishment of a children's hospital, an eye hospital, a women's hospital, and a mental institution. At the same time a number of private hospitals made their appearance. But the need for further extension of hospital facilities soon made itself felt.

The Basle authorities considered the possibility of finding a new site for the municipal hospital building, but a proposal to this effect was rejected in 1935, and a year later it was decided to embark upon a new project of reconstruction. The provisional plans were worked out by 1937 and work on the new building—illustrated in this article—began in 1940.

The Bürgerspital, or

municipal hospital, is situated in a densely populated part of the town and is easily available for patients. The town authorities agreed to divert heavy traffic from the street the new hospital faces so that the patients should not be subjected to too much noise. The hospital extends approximately from west to east in its length. The horizontal building facing the Spitalstrasse, in the middle of which is the main entrance, has in its west wing the surgical polyclinic, and in the east wing the medical clinic. On either side of the entrance are two lecture theatres with glass roofs. The two clinics and the entrance hall are connected with the ward block that lies immediately south, the windows of which face south-south-west. The wards are grouped similarly to the clinics, with the medical wards on the west side and the surgical on the east. The ward block rises higher than the frontage section and the wards are arranged in the seven floors above ground level composing it. Finally there is an extensive roof terrace from which one gets magnificent views of the Vosges and Jura Mountains and the Black Forest. Part of the roof terrace is partitioned off by glass for the shelter of resting patients. The extension from the west end of the frontage houses the kitchens and living-rooms for nurses and other staff. Extending to the south of the wards and from the west angle is a block for infectious diseases. The first basement floor houses the *x*-ray department and the department for physical therapy; here also is a section for the treatment of emergency cases. In the second floor below ground there is a swimming-pool. In other parts of the building there are pharmacological and pathological departments, and so forth.

In the Bürgerspital no ward contains more than six beds (see illustration). The wards are arranged in units of 16 beds—that is, two wards containing six beds each and on either side two wards containing two beds each. This unit of 16 beds is looked after by a nurse, an assistant nurse, and a probationer. The four wards comprising this unit have intercommunicating doors. These ward units are further grouped into a Krankenstation of three such units with an additional two-bedded ward, making in all 50 beds. Altogether there are 671 beds in the main ward block — the Krankenhaus. The wards are classified as first - class, second-class and third - class. The "first-class" wards

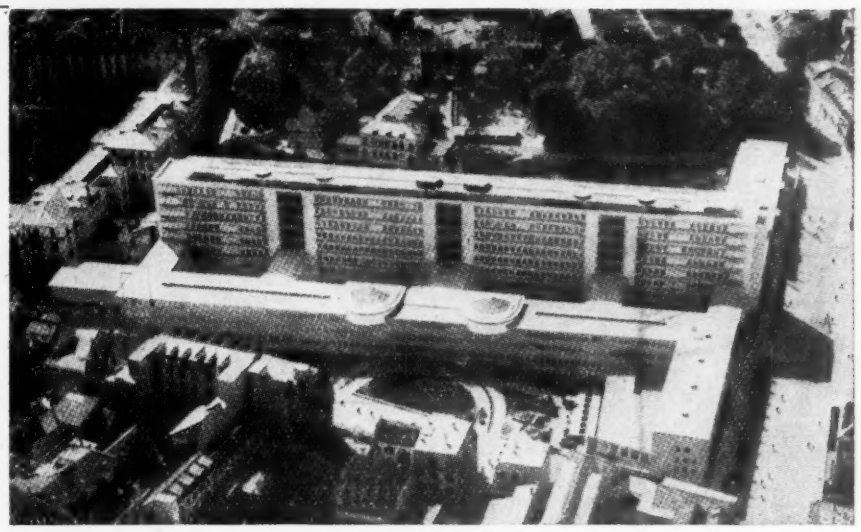
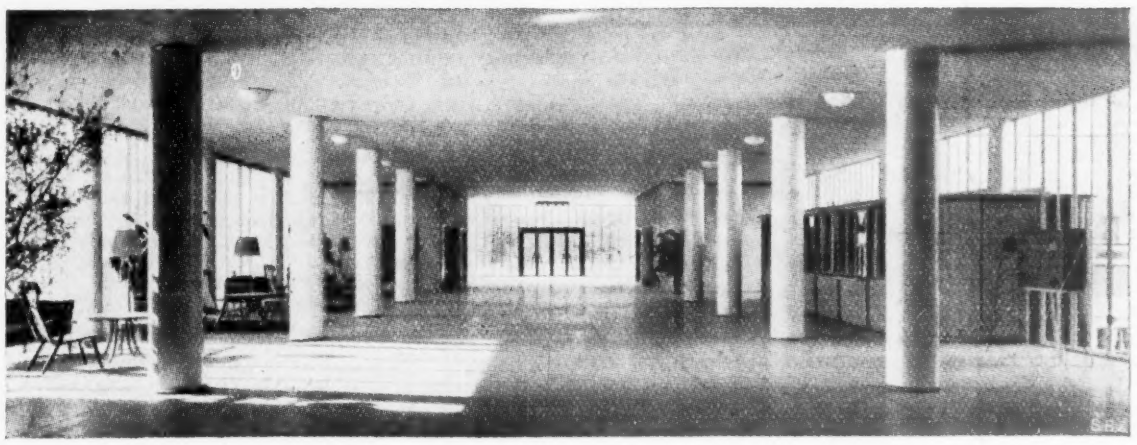


FIG. 4.—Bird's-eye view, showing ward block to south of main entrance building.

FIG. 5.—A public ward of 6 beds.

FIG. 6.—The Entrance Hall.



on the top floor are single-bedded rooms; on the floor beneath (6th floor) there are two beds to a room, and the third-class wards, comprising six beds each, occupy the first four floors.

There is not the space here to discuss the numerous details of construction, intelligent use of material, heating and cooling systems, methods of delivering meals at their proper temperature to the patients in the wards, etc. It seems as if every conceivable device that could contribute to the comfort and safety of the patient and to the efficient working of the hospital for doctor and nurse had been worked to the finest point of detail. The only point of criticism is that the medical staff appear to have fair distances to walk from one part of the hospital to another, and for the relief of the eye one would have thought that more use could be made of colour on the internal walls.

BRITISH-SWISS MEDICAL CONFERENCE

Concluding Sessions

It remains to refer, all too briefly, to some of the later communications made to the Basle Conference. Several of these were by Swiss specialists. A description of twenty years' research in typhus fever was given by Dr. HERMANN MOOSER (Zurich). Formerly, he said, typhus fever was regarded as a well-defined morbid entity in its epidemiology. Then doubts were raised about the louse being the sole vector. A new variety of typhus was found in Mexico and parts of the United States which was called murine (appertaining to the mouse) typhus which, although it showed cross-immunity with classical Old World typhus, could clearly be distinguished from it by its different course in laboratory animals. He related the results of observations on strains of murine typhus which had laid the foundations of most of the present knowledge of the epidemiology of rickettsial diseases.

Prof. HUGO KRAYENBÜHL (Zurich) discussed the immediate and late results of carotid ligation of intracranial aneurysms. He gave a review of 35 cases, and concluded that, while with infraclinoid aneurysms carotid ligation was a safe procedure, it was not highly dangerous, as some had claimed, in supraclinoid aneurysms; his seven cases had tolerated the ligature wholly without complications.

The regulation of lung volume was discussed by Prof. FRITZ VERZÁR (Basle), with emphasis on a new feature of respiration, namely, the increase of the respiratory surface area resulting from an increase in lung volume in hyperventilation. The final Swiss paper was by Prof. P. H. ROSSIER (Zurich) on thromboangiitis obliterans. Postmortem examinations of persons who had died of this disease had shown that the coronary arteries were affected as frequently as the vessels of the lower limbs, and about half of the patients died from coronary occlusion.

Nuclear Physics and Medicine

A paper which broke much fresh ground was read by Dr. J. S. MITCHELL (Department of Radiotherapeutics, Cambridge). He had much of interest to say on metabolic disturbances produced by therapeutic doses of *x* and gamma radiation, on the production of gene mutations and chromosome breakage, and on clinical problems such as the relation between dosage and permanency of cure of malignancy, and dosage rate and significance of indirect effects, in radiotherapy. The part of his paper which excited most attention was that concerning the biological application of the recent advances in nuclear physics which had led to the atomic bomb. These provided a new powerful method of preparing radioactive isotopes, which are becoming widely used in medicine as tracers for the study of metabolic processes, as artificial gamma ray sources in radiotherapy, and in extension of this, some could be used internally, by taking advantage of their selective absorption by tissues—e.g., iodine by the thyroid gland—to reduce secretion or cell division by local irradiation. He also spoke of the possibilities of fast neutron beams with which previous clinical trials could not be regarded as final because of the difficulties of absolute dosimetry and the inevitable restriction to patients with advanced disease. Evidence was accumulating to indicate differences in the mechanism of the biological action of fast neutrons and gamma radiation, though at present it was difficult to know whether any of these differences were likely to prove advantageous in therapeutics. There was no alternative to the cyclotron in this field as the neutron energies produced in the "pile" were not sufficiently high for the treatment of deeply situated malignant tumours.

Prof. A. C. FRAZER (Birmingham) discussed fat absorption in the light of the current partition hypothesis and referred to their host Prof. Verzár as an authority. Investigations showed that in the intestinal lumen emulsification down to 0.5μ particles is largely due to the triple complex fatty acid bile salt monoglyceride, two components of which result from lipolysis; which process is often self limiting by local fall in *p*H unless its released fatty acids are removed in virtue of their water solubility.

Emulsified unhydrolysed fat particles, smaller than 0.5μ, water-soluble fatty acids *per se*, and the longer chain fats as soaps, can be passed, markedly influenced by corticosterone, salt, and the phosphorylation mechanism, through the striated border of the intestinal lining cell. Within the intestinal wall resynthesis of fat and phospholipidogenesis occur and, with choline, facilitate the further absorption into the blood stream. Distribution in the body, independent of the total quantity ingested, varies with extent of hydrolysis, triglycerides tending to travel by lymph stream to the body fat deposits and the hydrolysates via portal venous blood to the liver.

In man, fat-balance experiments, repeated intestinal tube withdrawals, and blood chylomicron counts are of value in assessing, as yet incompletely, the fat absorption defects in sprue, pancreatitis, regional ileitis, biliary obstruction, gastrocolic fistula, and gastrectomy.

Dr. R. R. RACE (London) presented an interesting paper on the Rh blood groups and on his collaborator Prof. R. A. Fisher's hypothesis on the inheritance of the Rh genes, which had now brought order out of chaos. So far eight heritable forms of Rh had been isolated, the eighth being discovered after Fisher postulated that it must exist.

Chemotherapeutic Control of Malaria

The whole subject of the chemotherapeutic control of malaria in war and peace was reviewed by Dr. HAMILTON FAIRLEY (London). In war the main problem was one of a non-immune population at risk in a highly malarious area, where the question of chemotherapeutic interference with premunity was not involved. In peace the control of malaria was mainly concerned with communities which had acquired a variable degree of premunity as a result of exposure over prolonged periods to repeated infections with different species of parasite—a condition generally found in indigenous populations residing in hyperendemic or highly malarious areas. In the recent war there was a world shortage of antimalarial drugs and such research stimuli as a malaria casualty rate of 740% per annum (later reduced to about 30%) among Australian troops in New Guinea. Dr. Fairley went on to describe the results obtained in a medical research unit in Northern Australia where 850 volunteers were experimentally infected with sporozite-transmitted malaria while taking different antimalarial drugs, and he discussed the action of these, dividing them into schizonticidal suppressants (e.g., quinine, sulphadiazine, atebrin) and causal prophylactics (e.g., plasmoquine, paludrine). He spoke in particular of paludrine as outstanding in that a single dose of 50–100 mg. given from 48 to 120 hours after exposure was a causal prophylactic for *P. falciparum* infections, and similarly a single dose of 100 mg. would resolve an overt attack of *vivax* or *falciparum* malaria through schizonticidal action. Thus 100 mg. taken twice weekly promised to be a complete field suppressant.

"The possibilities of this single dose regimen of paludrine applied to native villages and epidemics in hyperendemic areas open up an entirely new field in the chemotherapeutic control of this disease, not only on account of its schizonticidal value, but also because of its extraordinary potency as a causal prophylactic. . . . The discovery of paludrine and the increased control of the mosquito vector and its larvae by D.D.T. and other means should enable future epidemics to be rapidly controlled."

The subject of arterial injuries was dealt with by Mr. J. J. MASON BROWN (Edinburgh). He described 62 operations for traumatic aneurysm, of which 23 were emergencies treated in 20 cases by ligation and 3 by suture. One death followed proximal ligation of the common iliac artery for a huge lesion

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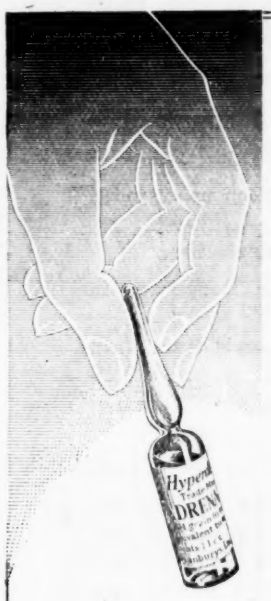

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of the external iliac. In one case there was slightly decreased blood supply in an already ischaemic limb, but otherwise there were no complications. In the 39 operations of election, 23 by ligation and 12 by suture, there was one recurrence in an early case of separative ligation of an axillary arterio-venous fistula. There was good evidence that following arterial suture the treated vessels remained patent, and arteriograms taken in three cases of popliteal arterial suture confirmed this. One allied officer actually discharged himself from hospital after a popliteal suture, and fought with such distinction at Cassino that he was awarded his country's highest decoration for bravery.

Social and Industrial Medicine

Prof. Charles McNeil (Edinburgh) read a paper on child life and health which had a medico-political tinge when he declared that in the family the mother ought to be the sovereign power, and her rule almost absolute, but the State, even the democratic State, was beginning to assert itself more firmly, and there were the makings of a conflict between the State and the family.

"The encroachment of the State in the whole life and government of the family must reduce and weaken the responsibility of the mother for the health of her children; and loss of responsibility is likely to be accompanied by a loss of her authority. The crucial question is whether it will or will not promote child health. It may produce healthier bodies. It already has produced better trained minds. It is very doubtful if it will produce more stable and happy personalities. And of these three parts of child health, the greatest is the health of the soul."

The research carried on in Great Britain in problems of industrial health, notwithstanding the difficulties imposed by total war, was related by Dr. Donald Hunter (London Hospital) at a special meeting of the Conference held at Rheinfelden Spa. He described work done on factory lighting and ventilation, vocational psychology, prevention of injury, toxicological investigation, industrial lung diseases, and the various new experiences afforded by wartime conditions of employment. Fluorine compounds were particularly interesting, as in one aluminium factory handling *cryolite* some 800 tons a year, much of which was in particulate form and settled on the surrounding fields, were lost to the air. Sheep and cows developed dental fluorosis with gross irregularity of teeth, and some of them died from inanition because of their inability to eat grass. An extensive investigation, not yet complete, of the factory employees and the local residents demonstrated skeletal fluorosis in 28 out of 264 furnace-men examined, but the condition caused no disability even in a man who had been exposed for over 40 years. Blood counts showed no abnormality. The water supply of the neighbourhood contained less than 0.2 parts per million of fluorine.

Surgical Rehabilitation

At a meeting of the Swiss Academy—not technically a part of the Conference—Sir Reginald Watson-Jones (London Hospital) gave an account, with cinematograph illustrations, of the work done in this country on surgical rehabilitation. In his story of the orthopaedic service of the R.A.F. he showed what had been done in cases with apparently hopelessly smashed limbs, and he proved by pictures of the victims after their recovery how successful the work of rehabilitation had been. Many of the young fellows who had sustained crash landings had had fractures at many levels—the fractures numbered sometimes as many as 16 or 18—yet in case after case the same boy a year later was shown in perfectly healthy trim, engaging in vigorous exercises, and apparently all the tougher for his experience. In addition to the fractures there were often severe abdominal and other injuries. He showed a photograph of two fellows who had not a single uninjured limb between them. Entirely new complications of injuries presented themselves. But very many of the men returned to non-operational flying within a year and to operational flying within eighteen months. An analysis of 1,058 cases of fractured spine showed that 914 went back to duty. One photograph showed a number of these men who had had fractured spines engaged in a tug-of-war, having provided from their own musculature something better, said Sir Reginald, than any surgical instrument-maker could provide for them.

These changes, he pointed out, were due to three things—good surgery, good rehabilitation, and good resettlement. The last was as important as the first and second. The old way of resettlement was a financial adjustment in the county court; the new way, through the Disabled Persons Act. Everything must be done to influence the minds of these men in the direction of full restoration. The surgeon should be careful of the words he used in their presence, for in their hours of enforced idleness they were apt to brood over them and possibly to get depressed. Physical exercises were no more than a part of the technique. The important thing was the extent to which the mind of the patient was influenced in the right direction.

An interesting morning was spent by the members of the Conference on visiting the several important chemical factories of Basle. Basle for the past hundred years has been the centre of a chemical industry known all over the world. To have been the birthplace of D.D.T. is its latest claim.

"WORLD MEDICAL ASSOCIATION" CONSTITUTED

INTERNATIONAL CONFERENCE IN LONDON

Thirty-three medical associations in thirty-one countries were represented at a three-day Conference held at the B.M.A. House in London, opening on Sept. 25. The Conference was under the joint auspices of the Association Professionnelle Internationale des Médecins and the British Medical Association, and its general agenda were to discuss the objects of international liaison, the setting up of an international body for the achievement of such objects, and the constitution and immediate programme of such organization. It was unanimously agreed that such an association be constituted, to take the place of the old A.P.I.M., with the objects of promoting closer ties between the various national medical organizations, of studying the problems which engage the profession in different countries, of organizing exchanges of information, and of establishing relations with, and presenting the views of the profession to, the new World Health Organization and U.N.E.S.C.O. The Conference was attended by about 43 full delegates and 32 observers.

It was agreed that the title of the new body should be the "World Medical Association," and an acting committee was set up comprising representatives from Great Britain, Canada, Switzerland, France, Belgium, Sweden, Spain, Czechoslovakia, and Egypt.

Sir Hugh Lett, Bt., President of the B.M.A., who took the chair at the conference, extended a welcome to the visitors and mentioned with special pleasure the presence of a representative (Dr. Chisholm) of the World Health Organization. The B.M.A., he said, had always taken an interest in international co-operation. One of its present activities was the arrangement of visits of lecturers to the Continent where such visits were desired, and it was also launching an abstracting service which would cover world medical literature.

Objects of an International Body

On the proposition of Dr. Alfred Cox (B.M.A.), seconded by Dr. F. Moran (Irish Free State Medical Union), and supported by delegates from the National Medical Chamber of Poland, the General Council of Colleges of Spanish Doctors, and the Svenska Läkaresällskapet, it was agreed unanimously:

That this Conference express the view that there should be an international organization of medical associations.

A long discussion then took place on the objects of such a body, in particular whether these should be limited to professional and social medicine or should be extended to embrace scientific matters. Dr. J. C. Michaelson (Palestine Jewish Association) suggested two functions which such an organization could discharge. One would be to act as a clearing house for the resettlement of refugee doctors. In Great Britain since 1933 between 400 and 500 Jewish refugee doctors had been absorbed, and in America about 5,000 refugee doctors, of whom 2,000 were non-Jewish. Such an organization might make an

inventory of the number of refugee doctors in each country and smooth the absorption rate throughout the world. The other function would be to act as a safeguard against the violation of professional ethics by political doctrinaires and to resist political pressure of every description.

The Polish delegate wanted scientific medicine included among the objects of the new organization. Dr. P. Glorieux (La Fédération Médicale Belge) did not see how an international organization could successfully operate in this field. Adequate organizations for dealing with scientific matters, he said, already existed in the several countries. Dr. P. Cibrie (La Confédération des Syndicats Médicaux Française) was of the same opinion. Every country had its academies. There was more need for an international organization to study the professional problems of the private practitioner, especially in view of the social security legislation which had been passed or was pending in many states. Dr. F. Decourt (Secretary, A.P.I.M.) also considered that scientific medicine was sufficiently well served. The aim of an international organization should be to defend the rights of the ordinary practitioner and also of his patients—perhaps to defend them from the designs of their respective governments. A similar view was expressed by Greek and Dutch delegates.

The World Health Organization

Dr. T. C. Routley (Canadian Medical Association) said that he had recently attended in New York the meeting of 213 delegates from 62 countries who in five weeks had worked out the basis of the World Health Organization.[1] In his opinion the World Health Organization had the opportunity of going a long way towards solving the future problems of the world, but without the medical profession it would be like an electric grid without current. No parliament or national government would do anything with this instrument unless the doctors in every country in the world made it alive. Therefore there was now room in the United Nations for a movement among the combined medical associations parallel with that which had resulted in the World Health Organization. He had no quarrel with the old A.P.I.M., but in the sweeping movement of world events it was no longer adequate. He wanted to see an organization which would signify the unity of doctors all over the world; it should know no geographical boundaries, and should have as its primary objective to assist mankind to attain the highest possible level of health.

After some further remarks from Spanish, Portuguese, and Palestine Arab delegates acclaiming the idea of closer ties between the national medical organizations, Dr. J. A. Pridham (B.M.A.) said that whatever statement of objects was adopted, it ought not to exclude the possibility at some future time of extension into other fields. The B.M.A., he said, undertook scientific as well as medico-political work, and in its scientific work it did not compete with the colleges and academies; on the contrary, these bodies were quite anxious to come into contact with the Association. If the new medical organization were the medical counterpart of the World Health Organization it would be rendering an important and useful service.

The Search for a Formula

Suggestions were made by the British, Canadian, French, Egyptian, and Palestine Jewish delegates for formulae expressing the objects of the new body, and the following form of words was eventually agreed to:

"To promote closer ties among the national medical organizations and among the doctors of the world by personal contact and all other means available in order to assist all peoples of the world to attain the highest possible level of health; to study the professional problems which confront the profession; to organize an exchange of information on matters of interest to the profession, and to establish relations with, and to present the views of the medical profession to, the World Health Organization and the United Nations Educational, Scientific, and Cultural Organization."

Lord Horder, who attended the conference as an observer for the American Medical Association, said that it was important to bear in mind that any international medical organization which was set up with some degree of permanency, whether inside larger organizations such as W.H.O. or U.N.E.S.C.O., or having its own autonomy, should put in the forefront of its objects the promotion of closer ties among the several national medical organizations. It was at his suggestion that this was placed first among the objects.

Dr. Cibrie (France) said that in his country there was some suspicion of the World Health Organization and of U.N.E.S.C.O.—suspicion which had arisen, he thought, because these bodies had not clearly stated their aims. If it was decided to co-operate with these institutions it should be determined in advance how far that co-operation ought to extend. If the World Health Organization assumed bureaucratic functions, would they still be prepared to co-operate? Prof. Grzybowski (Poland) contested the implication that the World Health Organization would associate itself with anything which was not in the best interests of the profession. Dr. F. Decourt, however, supported his countryman. One of the reasons for the establishment of their own body, he said, was to defend medical practitioners whose liberty was being menaced in many countries, and to proclaim in advance co-operation with this new official institution, unless such co-operation were strictly conditioned, would be unwise.

Dr. T. C. Routley (Canada), as one who had been present at the birth of the World Health Organization, said that he entertained no fears of its intrusion into political affairs affecting the doctor in any part of the world.

Eventually the phrase was agreed to "to establish relations with, and to present the views of the medical profession to, the World Health Organization and U.N.E.S.C.O."

Dr. Chisholm, representing the United Nations Organization at the Conference, gave an account of the World Health Organization and its origin. The interim commission, composed of the nominees of 18 States, was at work on the rapid and effective establishment of the Organization. The constitution had been signed by 61 nations, but needed the ratification of a minimum of 26 before it came into being. Under the constitution of the W.H.O. there would be no interference with the practice of medicine in any country. He realized the concern over possible regimentation of the profession; this was in the minds of those engaged in the work of framing the constitution, but there would be no attempt to control the practice of medicine in any way whatsoever. The Organization would help all bodies engaged in securing the better health of the people, and, well aware of its responsibility, it desired the advice of bodies which could speak for the medical profession.

Nomenclature and Constitution

The Conference agreed that the name of the new body should be "World Medical Association." The French, Greek, and Spanish delegates desired to retain the name A.P.I.M., mainly for reasons of sentiment. Mr. Scott Stevenson, one of the observers on behalf of the American Medical Association, said that a good precedent had been afforded by the change from "League of Nations" to "United Nations." One delegate proposed "World Federation of Medical Associations," but it was pointed out that "federation" involved legal complications.

An amendment to retain the name "A.P.I.M." was rejected by 14 votes to 22, and the name "World Medical Association" was agreed to on the motion of Dr. I. C. Michaelson (Palestine Jewish Association), seconded by Dr. J. A. Pridham (B.M.A.).

Some discussion took place on proposed functions of the new Organization. Dr. Routley was anxious that one of its tasks should be to assist and foster medical education, both undergraduate and postgraduate, but the President pointed out that this was approaching the scientific side which had been accepted as somewhat outside the province of the new body. Dr. Charles Hill described what the B.M.A. had already done for the furtherance of international medicine, in particular the arrangement for lectures, by invitation, at Continental centres. Dr. O. C. Carter mentioned the publication of the specialist quarterly journals and the introduction of the new medical abstracting service.

It was agreed that the members of the World Medical Association should be national medical bodies. The question was raised as to the existence in a given country of more than one medical association which might claim a national character. Dr. Cibrie suggested that in that case the association which

[1] *British Medical Journal*, 1946, **2**, 428.

was the more representative should be selected. The criterion for admission might be that the membership of the association included more than 50% of the practising doctors in the country. In France there was only one association. Dr. WIBAUT (Netherlands) pointed out the singular case of Palestine from which two associations were represented at that Conference—the Palestine Jewish and the Palestine Arab. Dr. ALFRED COX suggested that for the time being all who had been invited to attend the present Conference should be accepted as members, and that the membership question should be referred for permanent settlement to the committee which would be appointed. Dr. DECOURT mentioned Switzerland, where there were three national groups which had combined to send one delegate to the present Conference. Dr. LEUCH, the Swiss delegate, however, stated that there was only one medical association in Switzerland, the Fédération des Médecins Suisses.

A form of words suggested by Dr. C. HILL was agreed to:

The Medical Associations which are represented by delegates or observers at this Conference shall be eligible for membership, together with any other national or territorial medical association making application which is representative of the medical profession in its country or territory.

It was the desire of some delegates that the matter of the subscription be referred to the provisional committee, but on the motion of Dr. CIBRIE the Conference agreed, by 18 to 11, to fix the subscription. It was fixed accordingly at half the rate which obtained for the A.P.I.M., namely, at 10 centimes Swiss per member of each national group, up to a total of 10,000 members, and 5 centimes per member above the first 10,000, with a maximum of 1,500 francs Swiss whatever the number of members in a group.

A long and rather confused discussion then took place on the appointment of representatives to the Governing Body or Conference. Dr. CIBRIE urged that there should be only one member for each national organization, though the member might be assisted by an expert who should have no vote. He was anxious that all countries should have an equal voting power in the assemblies of the Association, the voting to be by countries, not by the number of delegates attending.

This matter was left for further exploration by the provisional committee, but it was the general feeling of the Conference that each member-association should have two seats on the governing body, and that whatever the number of delegates from national associations, the voting strength should be the same for each country.

Mr. M. LESSOF, who, with a colleague, was attending as an observer for the British Medical Students Association, asked that the committee to be appointed should be recommended to consider as eligible for membership of the Association the Medical Faculty Group of the International Union of Students. This was opposed by the Belgian delegate, Dr. SANDERVOST, who said that the Association was one of qualified doctors, and asked whether any national medical association admitted students to its membership. The French also opposed this recommendation. Dr. PRIDHAM for Great Britain supported it, as also did the Swedish delegate. Eventually it was agreed to recommend to the committee that the Students Medical Faculty Group be admitted as observers, with two representatives, but without a vote.

Secretariat and Committee

It was agreed that there should be two official languages in the Association—English and French—and that there should be a dual secretariat, in London and Paris. Dr. Charles Hill, secretary of the B.M.A., was appointed secretary in London, and Dr. Cibrie, of the Confédération des Syndicats Médicaux Française, secretary in Paris, the appointments to be acting ones until the next Conference.

Dr. T. C. ROUTLEY proposed the appointment of a provisional Committee of nine persons, this committee to be charged with the responsibility of putting into the two languages a draft constitution and bylaws embodying the recommendations made by the present conference. He suggested that it should report back to the constituent associations and finally present its drafts to the first meeting of the World Medical Association, which would be asked to adopt the constitution as the instrument governing its activities.

Mr. H. S. SOUTTAR seconded, and said that behind the new Association would be the "armed force" of British medicine, and particularly of the B.M.A. Prof. J. F. BROCK (South Africa) urged that in forming the committee some regard should be paid to continents other than Europe. The A.P.I.M. suffered to some extent because it was thought of as only a European body.

The proposal having been adopted, a ballot was taken for the election of the committee, and the result was as follows:

Dr. F. Decourt (France)
Dr. P. Glorieux (Belgium)
Dr. Dag Knutson (Sweden)
Dr. O. Leuch (Switzerland)
Dr. J. A. Pridham (Great Britain)
Dr. T. C. Routley (Canada)
Prof. I. Shawki Bey (Egypt)
Dr. L. Tornel (Spain)
Dr. A. Zahor (Czechoslovakia)

It was agreed to recommend that the next Conference be held in Paris, the date and programme to be left to the committee.

Dr. O. RASMUSSEN (Denmark) referred to a report of a meeting of an international scientific commission held at the Pasteur Institute, Paris, on crimes committed by German doctors during the war; it was proposed to institute proceedings. He suggested that a report on the subject be presented to the next Conference. Dr. CIBRIE said that there existed in France an association of doctors of the Resistance movement, in which he had the honour to serve; it was now preparing a "blue book" on German atrocities. Dr. A. ZAHOR (Czechoslovakia) said that during the occupation 1,080 members of the Czech medical profession were lost—250 by execution, 520 as a result of torture, imprisonment, and general ill-treatment, 300 by exile, and 10 by bombardment. The memories of the dead could best be honoured by devoted work for international co-operation in the medical profession. Dr. I. C. MICHAELSON (Palestine Jewish) suggested that the committee should obtain information from its constituent bodies as to the number of refugee doctors still not absorbed and determine the general absorption rate sufficient to give employment to all refugees.

Dr. LEUCH (Switzerland) proposed and Prof. W. DENK (Austria) seconded a vote of thanks to the British Medical Association. Sir HUGH LETT said that it had been a great privilege to preside. If only they could secure international co-operation between the medical men of the different countries they would have gone far towards bringing about the permanent peace they all desired.

The Conference gave an ovation to Dr. Alfred Cox, a veteran of the A.P.I.M., who, notwithstanding his eighty years, had been as energetic as any in the work of the Conference.

B.M.A. DINNER TO THE DELEGATES

The President and Council of the British Medical Association entertained the delegates and observers to dinner at the Savoy Hotel on the first day of the Conference. Sir HUGH LETT presided, and the guests included the President of the Royal College of Physicians (Lord Moran), of the Royal College of Surgeons (Sir Alfred Webb-Johnson), of the Royal College of Obstetricians and Gynaecologists (Mr. Eardley Holland), and the Director of the British Postgraduate Medical Federation (Sir Francis Fraser).

The PRESIDENT, in proposing the health of the visitors, said that the urgent task was to prevent the continuance of so much avoidable suffering in many parts of the world. It was true that the conditions of a healthy and contented life lay largely outside the medical province, in the realms of political and economic affairs; nevertheless, the medical profession throughout the world could do much to alleviate suffering, and the co-operation of medical men of different nationalities would in itself help to promote understanding between nations. The new international association of doctors would also help to bring to fruition the work of the new World Health Organization.

Four replies were made to the toast. Dr. DECOURT recalled that it was in Dr. Cox's office when he was secretary of the B.M.A. that the A.P.I.M. was founded. It soon comprised representatives of 31 nations. Some of its stalwarts were still present among them, but most of those attending the

present Conference were novitiates in medical internationalism. Dr. J. G. Berner (Norway) prophesied a useful career for the new body in tackling the problems of medical practice in different countries. Dr. T. C. Routley said that the Canadian Medical Association which he represented numbered rather fewer than 10,000 members, but it recognized no boundaries where the brotherhood of man and the ministry of healing were concerned. The medical profession, in re-establishing world fellowship, could give a lead to other professions and vocations. Dr. J. J. Brutel said that among their own sufferings the Dutch people had watched and sympathized with their neighbours on the other side of the North Sea. British example had kept up their own spirits and stimulated their endeavours. He expressed gratitude to Britain for caring for Dutch refugees and also for what it had done since the end of the war to help Holland. He presented to the President a small commemorative plaque bearing the design of the Aesculapian serpent, with the house of the Netherlands Medical Association at Amsterdam as a background.

Prof. J. C. Brock, in proposing the health of the British Medical Association, mentioned that he started his research career as a Walter Dixon research scholar. He spoke of the gracious spirit in which the B.M.A. had accepted the recent proposals from South Africa. The Chairman of Council (Dr. H. G. Dain) said that the Association, he hoped, would always be able to play its part on the international stage. They had been watching for some months the politicians trying to hammer out a formula of peace, with little success. He hoped that the medical professions of different countries might seize the opportunity to give a lead, and that other professions, too, would begin to think of world-wide contacts.

GOVERNMENT LUNCHEON TO "WORLD MEDICAL ASSOCIATION" DELEGATES

MR. ANEURIN BEVAN'S "INAUGURATION" SPEECH

The delegates and observers attending the International Medical Conference were the guests of H.M. Government at a luncheon at the Dorchester Hotel on September 26. The Rt. Hon. Aneurin Bevan, M.P., Minister of Health, presided, and was supported by several of the officers of the Ministry. The President, Chairman of Council, and other officers of the British Medical Association were also among the guests.

Mr. Aneurin Bevan congratulated the company on having brought to birth this interesting infant, the World Medical Association. He also testified his appreciation of the initiative and imagination shown by the British Medical Association in summoning the Conference.

"The British Medical Association has many virtues; I shall not this afternoon make any reference to its faults. When it leaves the field of inevitable controversy and is able to set aside any subjective predispositions, it takes an objective and scientific and philanthropic interest in the development of medicine all over the world."

The birth of new organizations was always important. On such occasions persons in his position were expected to produce abstract generalizations, often prosy and boring. He would resist that temptation, but he could not neglect taking advantage of the opportunity of pointing out that there was no more important contribution that citizens could make towards universal appeasement than to meet each other as fellow craftsmen and as members of the same profession. When politicians got together all kinds of friction were likely to arise, but when doctors assembled their concern primarily was not as to who was going to do a particular thing but that the thing should be done.

"It does not matter to the doctor whether his patient be black or white, brown or yellow, communist or fascist, rich or poor. There is in medicine a catholic interest in and dedication to the welfare of mankind, a concern for the individual quite independently of his social group or inheritance, his destination or his origin."

It was therefore of supreme importance, Mr. Bevan continued, that the organization which had been born that day should have a successful beginning and carry with it the continuing enthusiasm of its founders. It was born with one great advantage, which the British Medical Association would appreciate—it was not within official apron strings. It would work in an atmosphere of complete independence and freedom. Those who were in official positions stood in the background smiling benignly on its activities. It would proceed from infancy to adolescence and manhood without official interference.

At the same time, he hoped the World Medical Association would realize the desirability of working in closest association with the World Health Organization. Their functions would be complementary. That was a characteristically British way of development. It was usual in this country for the start to be made by the amateur. Experimentation in the way of voluntary activity came first and gave rise to a variety of ideas of unequal survival value which competed with one another. Then, when one emerged which commanded general acceptance, the State stepped in and gave it formal expression in legislation. It would be one of the functions of the new organization to try out various ideas and eventually present them to more formal organizations as representing the way in which, in the view of the medical profession, these things should be done. One of the functions of the new organization would be to seek to universalize for all mankind the particular services or arrangements which had proved beneficial in certain areas. He wished it every possible success.

Dr. J. A. Pridham, one of the B.M.A. delegates, in responding, said that it was for each society or group to cultivate international co-operation in its own small field, and it was this that those who had assembled at that Conference were trying to do. For the medical profession this should be an easier task than for most, for sick and suffering humanity had a universal appeal, and "there are no visas or tariffs on the traffic of medical knowledge."

Governments the world over were taking a great interest in medicine—a welcome fact, although introducing a disturbing and unpredictable factor into their way of life. The traditions of medicine were centuries old; State medicine was of recent growth. A doctor practised the art as well as the science of medicine. If he was a pure scientist it would be so much easier to integrate him into the State machine. It was the combination of art and science that made medical practice so fascinating—and so difficult. The raw material of medicine was human beings, not mere collections of bones, nerves, and blood vessels. A doctor, like a scientist, had to acquire a special mental discipline, but also a discipline of the heart. As the Minister had said, all suffering called for help, whether the sufferer were friend or foe, Christian, Mohammedan, or Jew. The doctor served them all. But when the organized State entered in to provide this service new difficulties arose. A new pattern had to be devised, but it must not be allowed to destroy the spirit of the old. They all realized that there must be some arrangement between the State and medicine, but they hoped it would be of the nature of a partnership or marriage, in which each served the good of the other and neither was subservient to the other. It was to be hoped that those whose particular sphere was politics would approach their common problems in the same way as the good scientist or the good doctor—that is to say, by humble, patient inquiry, observing, recording, deducing, and being ever ready when necessary to cast aside old theories and prejudices. Thus perhaps in medicine they might achieve the first really harmonious international society.

Dr. P. Glorieux (Belgium), in a further speech in response, after thanking the Minister, proceeded to make a declaration of the democratic faith of his Belgian medical colleagues. The profession in Belgium was firm in its resistance to political pressure. They believed with all their hearts that in a democracy the doctor must remain a free doctor and the patient a free patient.

Mr. H. E. Durham, Sc.D., F.R.C.S., of Cambridge, who died on Oct. 25, 1945, leaving £32,885 9s. 9d. gross, with net personalty £32,825 2s. 4d., bequeathed his real and leasehold property to his wife, and the residue to her for life and then to his children, whom failing: £2,800 stock to the Royal Medical Benevolent Fund, for the benefit of professional persons afflicted with total or partial loss of vision; his railway stocks and shares to King's College, Cambridge; £500 stock to the London School of Tropical Medicine; £600 stock to the Liverpool School of Tropical Medicine.

MANAGEMENT OF CEREBRAL PALSIES

Dr. Earl Carlson, of New York, delivered a lecture at the London School of Hygiene and Tropical Medicine on Sept. 9 on "The Modern Management of Cerebral Palsies." The chair was taken by Dr. F. M. R. Walshe.

Infantile cerebral palsy, or spastic paralysis, said Dr. Carlson, was a disturbance of muscular movement which was as prevalent as poliomyelitis. It could be caused by anything that damaged brain tissue before, during, or after birth. The principal types of muscular dysfunction encountered were spasticity, athetosis, and ataxia, and these might be present singly or in combination. The degree of physical incapacity ranged from complete helplessness to a disturbance so slight as to be recognizable only when the patient was under emotional strain. Besides the obvious motor handicaps, speech disorders and difficulties in hearing and vision were frequent accompaniments and made the educational programme more difficult. Thus the spastic who was both deaf and crippled was not accepted in schools for the crippled because of the hearing defect nor in schools for the hard of hearing because of the crippling condition.

Degree of Mental Impairment

The mental state varied from idiocy to a superior intelligence, and the extent of mental disability bore no relationship to the amount of motor handicap. This was specially true in hemiplegic cases. Some children, in spite of having one good arm and leg and no speech involvement, had difficulty at school because of damage to the frontal lobe. They had an excellent memory for isolated facts but failed to organize the facts into a whole. It was not easy to determine the mental level of the cerebral palsied child. No test had been standardized on motor-handicapped children, but in testing children whose speech was intelligible the revised Stanford-Binet test had been found satisfactory. It was also necessary to make a careful analysis of special disabilities of speech, hearing, and vision. The majority of the cerebral palsied had speech defects, the extent of which bore no relation to mental impairment.

The outstanding characteristics of defective speech among spastics were (1) lack of smooth, rhythmic speech; (2) poorly articulated speech; (3) lack of nuances of inflexion, intonation, and volume. One child might need to learn to co-ordinate the expiratory muscle movements with the articulatory movements; another might make progress by imitating good speech models; another might require ear training or visual aid; another might require detailed explanation and demonstration; and yet another might require all these techniques and others in addition. Not infrequently the acquisition or improvement of speech came about with the successful accomplishment of co-ordinated muscular movement, without special emphasis on speech training itself.

Physiotherapy

Physiotherapy exercises must be adapted to the individual case. In spastic conditions the patient was taught to relax one set of muscles as the opposing muscle group was brought into action. Heat and gentle massage were sometimes helpful. Stimulating massage was contraindicated because it increased muscle tension.

In treating athetoid conditions relaxation was of primary importance. As the athetoid had better control of his muscular movements when fear, anxiety, and self-consciousness were in abeyance, training should keep him occupied and his mind diverted from his muscles, which could be done by directing his attention to the purpose of his act rather than to the muscles which performed it. Much reliance must be placed on vision in training. The child must look where he walked or focus on the object he was trying to reach. Occupational therapy was a valuable adjunct in treating cerebral palsy cases. Water treatment was often conducive to relaxation, but not as effective as in cases of poliomyelitis.

Surgery and Drug Therapy

Surgery was more effective in spastic than in athetoid conditions. Lengthening of the heel cord, stabilization operations on the ankle, tendon transplantation, and cutting the nerve supply to the adductor and gastrocnemius muscles were helpful if followed by exercises. Little was accomplished for the athetoid by peripheral operations on nerves and muscles. The use of braces and splints was also more helpful in spastic conditions: except in mild cases, braces usually aggravated the athetotic condition. In some of the most distressing cases of athetosis cutting the extrapyramidal pathways in the spine had yielded favourable results.

Drug therapy in cerebral palsy had been unsuccessful. Sedatives should not be used except in convulsive disorders. Any drug which tended to depress the mental activity made the patient less responsive to treatment. Snake and bee venom and curare produced partial and temporary relief of muscular tension, but seemed to have no permanent effect and were highly toxic.

Education of the Cerebral Palsied

The traditional view was that the cerebral palsied could not develop mentally beyond the limits of his motor experience, since he had to translate his ideas into muscular activity to grasp them. Therefore the first object in treating the patient was to educate his muscles until some control had been obtained. The movements of a normal infant were inco-ordinated. At birth the brain was unable to select sensory impressions and translate them into purposive action. Until this selective capacity developed the baby grimaced and exhibited degrees of muscular rigidity suggestive of mild spastic and athetoid conditions. As the cortex developed and concentration on a purpose was achieved these aimless movements ceased. It was the same with the cerebral palsied child: fewer purposeless movements occurred when there was something to hold his attention. Education, therefore, was even more important for the cerebral palsied than for the normal child, and it was possible to develop the unaffected centres of the brain. The importance of concentration was evident in the ability of the spastic athetoid to use his hands better in the evening than in the morning: he had become interested in his surroundings.

The value of a school programme could not be overemphasized. The effect of education on the emotions was important; it was through control of the emotions that the cerebral palsied learned to control muscular movements.

Vocational Problem

The sense of personal worth obtained by economic independence was the best medicine for the spastic, and much attention should be devoted to finding suitable vocations. As a small child, no matter how seriously afflicted, the intelligent spastic was happy; but as he grew older and more self-conscious he might become a social misfit unless he received careful guidance. The blind and the deaf were taught to circumvent their handicaps by braille and lip-reading, and there was hardly a vocation in which they could not excel. But with the spastic the determining factor was variable. With practice his co-ordination improved and he was able to do things previously impossible, so that he began to entertain ambitions, which again were thwarted by his handicap. A remarkable case was that of a man who at twenty years of age was selling newspapers on the street with a placard on his chest because his speech was so unintelligible that he could not call his papers. He determined to educate himself, and now held the M.A. and Ph.D., and was teaching academic subjects in a school for spastics.

Optimism in many cases of the cerebral palsied was justified, but they would never make a normal individual out of such, any more than out of the man with an amputated arm. His mentality might exceed the normal, but unless he had learned the limitations which his hyperactive nervous system imposed on him he was not going to be happy. The solution of the problem of the birth-injured, therefore, was far from being one solely of muscle training.

Dr. Walshe said that he felt a sense of reproach on reflecting how little had been done to help these sufferers, though it was true that certain operative procedures had been devised, including tenotomy, nerve section, and nerve crushing. Dr. Carlson's lecture was introductory to the work which Mr. Leslie Williams was now beginning at Croydon, where a school for spastic children was being founded—the St. Margaret's School for Cerebral Palsy.

Nova et Vetera

PRIMITIVE MEDICINE

Though till now there has been no lack of histories on the origins of special subjects (architecture, ceramics, etc.), there has not been any composed work on prehistoric medicine. Dr. Stéphen-Chauvet, who is the leading French authority on this subject, has set himself the task of elucidating it in all its aspects: morphological, physical, and ethnical.*

Documentary evidence of the palaeolithic and neolithic ages is almost non-existent. We have therefore to depend almost entirely on the evolution and civilization through which the earliest tribes are known to have passed. From statuettes, frescoes, and hewn stones certain deductions can be made. Internal pathology was much less important than external. In Oceania, for instance, we know that such diseases as syphilis, smallpox, tuberculosis, scarlet fever did not exist before the arrival of white people. A common feature of all the statuettes and frescoes representing prehistoric man is the difference between the sexes. Men, who hunted, fought, and worked, are depicted as of slender build; while women are all adipose, with big breasts, abdomens, and thighs, the result, no doubt, of their troglodyte and physically inactive existence reinforcing the hereditary enlargements of their endocrine glands.

Among prehistoric peoples it is evident that magic amulets and fetishes played a large part in the preventive or curative attempts to deal with maladies. The chapter on the methods used is well illustrated. In pharmacy the ancients employed purgatives, diuretics, vermifuges, and even antivenenes and aphrodisiacs. When dealing with external pathology, Dr. Stéphen-Chauvet has to rely mainly on the evidence of bone injuries, such as fractures, dislocations, and cranial wounds. He is astonished at the number of trephine cases that have been found to have healthy bone cicatrization and rarely with secondary ostitis. Dr. Prunières in 1884 found in 186 skulls which had been trepanned that some of the orifices were circular or conical, made by triangular pointed flints. It is, however, doubtful about the skull which is described on page 127 of this book as an Aurignacian skull from La Quina. Aurignacian (upper palaeolithic) skulls are of the neoanthropic or modern type. The skull on the cover, on the other hand, resembles the palaeo-anthropic type and is similar to some of the Neanderthal skulls. The supraorbital ridges are massive, though from the side view it is not certain that they meet in the centre to form a torus. There does not appear to be any canine fossa or mental eminence in this illustration. Dr. Chauvet leaves us in doubt whether the La Quina skulls were Aurignacian or Neanderthal in type.

This thoughtful and well-produced volume represents much antiquarian research.

JOHANN CHRISTIAN GOTTFRIED JÖRG [1779–1856] AND HIS "EXPERIMENTING SOCIETY"

In 1825 was published at Leipzig the first, and only, volume of Jörg's *Materialen zu einer künftigen Heilmittellehre durch Versuche der Arzneyen an gesunden Menschen*, which may be freely rendered as "Towards a new pharmacology by means of trials of drugs on healthy men."

Explaining the purpose of the investigations described in his book, Jörg points out that many others have published reports of the effects of drugs upon themselves, but that such observations lose in significance because they bear the stamp of the individuality of the experimenter. He also insists on the fallacy of conclusions drawn from the pooling of individual published reports based on differing conditions of dosage and subject. It was Jörg's conviction that the way to rational therapeutics was by detailed collective observations of the effects of drugs on healthy persons, and that these could best be made by a group of auto-experimenters who would take the same drugs in progressively increasing doses, carefully noting both negative and positive results. "For my part," he says, "I shall not pause so long as my health permits, but shall continue and count myself fortunate if I can, every year or 2 years, produce a volume similar to the present one." For some reason Jörg's resolution was never implemented, although his literary output was considerable and included books on a wide range of medical subjects.

For the execution of his plan, Jörg formed a society—to which he refers as the *experimentirende Gesellschaft*—of 21 volunteers, himself making the 22nd. In addition, his 16- and 14-year-old sons, Eduard and Theodor, were called upon as occasional guinea-pigs, as also 3 discreetly anonymous females—45, 18, and 12 years of age. Most of the 21 members of the society were in their early twenties, and a short description of each of them is given. Their constitutions are given as "robust," "healthy," or—more specifically—as "lymphatic," "arterial," or "arterial-florid." Temperaments are "sanguine," "choleric," "phlegmatic," "melancholic," or various combinations of these. The author describes himself as 45 years old, thick-set, and of average stature, robust constitution, and sanguine-choleric temperament.

In his 500-page book separate chapters are devoted to reports of the experiments with each of 17 different drugs, which include hydrocyanic acid (in dilute solution), valerian, St. Ignatius's bean (from which strychnine had been isolated 6 years before by Pelletier and Caventou), opium, digitalis, and tincture of iodine. It is interesting that valerian is described as "an unreliable drug . . . which either remained without any discernible action, even in considerable doses, or in some cases affected the head and in others the alimentary canal."

Jörg does not draw the obvious conclusions from his own observations, but prefers to regard valerian, on grounds that it is difficult to follow, as a stimulant, and to speculate on its mode of supposed action in the disorders for which it has been recommended by other writers. This mingling of faithful observations with hypotheses which seem to be quite unwarranted by the evidence presented is characteristic of the whole volume. Each chapter, devoted to a single drug, follows a similar pattern. About St. Ignatius's bean, for example, we are told that two preparations were used—a tincture and a powder. Then follow summaries of the reports of each of the experimenting members of the Society, with doses, date, time, and the sensations noted. Each experimenter starts with a small dose, notes his sensations, and then proceeds to higher doses. Engler, Friedrich, Güntz, Kneschke, Kummer, Lippert, Meurer, Pienitz, Seyffert, Ströfer, Otto, and Jörg himself conscientiously noted headaches (particularly in the region of forehead and eyeballs), colicky abdominal pains, diarrhoea, and miscellaneous other symptoms. Summing up, Jörg concludes that the characteristic action of the drug is as a stimulant of the alimentary canal and brain. There is a conspicuous absence of any reference to strychnine—the active principle—and the doses were evidently never so high as to excite convulsions.

From 52 pages of subjective reports of the effects of different doses of opium, Jörg concludes that it is "in no way so much to be recommended as the doctors have for centuries believed" and that it is "more various and stronger in its actions than the practitioners of the present time imagine." The light-headedness and feeling of inebriation which followed the taking of opium are interpreted by Jörg as a stimulant action on the brain, and he notes that this is followed by drowsiness and later a deep sleep. He concludes that opium first stimulates, then depresses the whole organism, the nervous system and the alimentary canal being particularly affected (as, indeed, would seem to be the case with most of the drugs tested!).

In spite of the poverty of real information on the action and uses of drugs that Jörg was able to gain, the conceptions underlying his "experimenting society" were of outstanding merit when judged by the word-spinning and the uncritical empiricism of most of his contemporaries. Imperfectly as he was able to realize them, he seems to have clearly appreciated two important principles: that the effects of individual variation should be eliminated by comparable trials with relatively large numbers of test-subjects; and that comparable trials could be attained only by use of drugs prepared by the same method and given in similar dosage. But perhaps of even more importance was his attempt to understand the actions and uses of drugs by the study of their effects in the healthy organism.

There is a surprising lack of information on Jörg in the standard reference works of medical history. Garrison does not mention him. Nor do Sudhoff and Pagel, Castiglioni, or a number of shorter works consulted. In Puschmann's *Handbuch* (Neuburger and Pagel), the brief reference to him is confined to an appliance which he invented for the correction of deformities of the limbs. Hirsch's *Biographisches Lexicon* refers principally to Jörg as a writer on diseases of women and children (he was professor of obstetrics at Leipzig), although it is mentioned that he wrote also on materia medica and other subjects. The only reference found to the *Materialen* is in Waring's *Bibliotheca therapeutica* (1878), which contains a 14-line description of the work.

Perhaps the most striking impression made by this book on the modern reader is—*pace* the advocates of Clinical Science, and the medical historians who demand that we shall return to Hippocratic methods—of the extreme limitations of the method of unaided clinical observation, however carefully and honestly pursued. It was at about this time that Magendie in France was developing his pioneer work of animal experimentation with active principles of drugs.

N. H. J.

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* *La Médecine chez les Peuples Primitifs.* By Dr. Stéphen-Chauvet. (Pp. 143; 103 figures. No price given.) Paris: Librairie Maloine, 27, rue de l'École-de-Médecine.

Reports of Societies

RHEUMATIC DISEASES

At a scientific meeting of the Westminster and Holborn Division of the British Medical Association held on Sept. 12, with Dr. W. A. MILLIGAN in the chair, Dr. W. S. C. COPEMAN delivered an address on "The Rheumatic Diseases." He said that "rheumatism" was a vague term for a neglected and important subject, the aetiology of which was little known. Ministry of Health figures showed that twelve million of the population suffered from this condition. The Royal College of Physicians classification of 1936 was: A. Acute and subacute rheumatism, synonyms for rheumatic fever. B. The articular group—arthritis, the joints being involved: (*a*) rheumatoid arthritis; (*b*) osteo-arthritis. An exception was spondylitis of the spine, where both rheumatoid arthritis and osteo-arthritis were involved. C. Non-articular type, where soft tissues only were involved: 60% of the twelve millions. Removed from this group recently were those cases caused by prolapsed intervertebral disk.

Articular Group

Women were affected by rheumatoid arthritis five times as often as men. They were usually in the child-bearing age groups, and frequently bed-ridden—often within 18 months and for the rest of their lives. The patients were commonly of the asthenic type, as in tuberculosis. They were often pyrexial and thought to be infective. The condition usually started in the small bones of the hands and feet and travelled to the large joints and spine. Relapse was frequent, with early and complete crippling. A secondary anaemia, loss of weight, and glandular imbalance occurred, but threw no light on the aetiology. Some cases were infective (e.g., gonorrhoea). Osteo-arthritis was caused by "wear and tear" or trauma to one or more large joints—rare in upper extremity. The cartilage wore thin. The general health was good, and males were the most frequent sufferers. On *x*-ray examination the rheumatoid type showed atrophy and rarefaction (the American atrophic arthritis), whereas in osteo-arthritis there were osteophytes with overgrowth of bony and soft parts and widening of the joint (the American hypertrophic arthritis).

Non-articular Group

Fibrositis was once thought to be inflammatory and a disease of the muscles. It was now realized that any tissues might be affected. Biopsy showed three types at least: (1) fibrous nodules; (2) local areas of spasm; (3) small hernial protrusions of the fat through the muscle sheath. Features of the disease were definite painful points called trigger points, or palpable fibrositic nodules. General health, blood count, and blood-sedimentation rate remained normal. There was also non-localized fibrositis, as in influenza or sinusitis, due to an open focus of infection, in which the whole muscle was affected. Lastly there was a general condition in which the whole side of the body was involved; it might be psychosomatic or secondary to pain.

Methods of Treatment

Team work was needed, the minimum being the patient and the doctor; but the orthopaedic surgeon, the gynaecologist, the dentist, and the physiotherapist might be needed, the last especially. Physical methods should not be left to the masseuse. Rest should be ordered only in inflammatory cases; if misused it might cause adhesions. In the absence of active inflammation, movement was indicated, but the rheumatoid cases should be rested if possible. Plaster-of-Paris should be used to immobilize joints, and they should be put in extension. Serial plasters should be used, particularly for rheumatoid arthritis, because they prevented deformity. In later stages or less active disease the joints might need to be stretched or manipulated. Analgesics were valuable, especially aspirin. Cinchophen was useful for gouty cases. Iodine was justified in some cases, especially menopausal types. Sulphur and guaiacum were probably inert, but salts every morning seemed to be of some use, while cod-liver oil and arsenic were useful in the rheumatoid types. Gold was the best treatment for rheumatoid types, but dangerous in others; the dose was 0.5 g. in eight or nine weeks, and a water-soluble salt was best. Vaccines were not of proved value, and non-specific protein therapy was not as successful as gold, the effect not being lasting. Physical medicine was of great value, and in the U.S.A. psychological treatment now had a vogue. The patients should live in a warm or dry place. A high, sheltered situation, and the type of clothing were important. Industry was a potent cause not generally recognized, and some cases were directly occupational. Of patients in the arthritic group, if treated before two years had elapsed, 70% should be improved; therefore early treatment was indicated. The fibrositic group could be rendered free from symptoms in 80–90% of cases, but they were liable to relapse.

Answering questions, Dr. Copeman said that the condition got better in pregnancy, but rapidly worsened after childbirth. Aluminium, he thought, was not a cause. Rheumatoid arthritis did occur after the menopause, but rarely. Food was not a specific cause, but there was an allergic type. Fat cases should be slimmed, and thin cases fattened up; and he mentioned the use of insulin for the latter purpose. Vitamins were of no value, except perhaps vitamin B. Focal sepsis should be treated. He mentioned the use of local injections of anaesthetics, sterile water, or glucose in the trigger points of fibrositis.

RHEUMATIC CARDITIS IN CHILDREN

A meeting of the Medical Society of the L.C.C. Service was held at Queen Mary's Hospital, Carshalton, on Wed., Sept. 4. There was an attendance of nearly 100 to see interesting cases of which the bone dyscrasias may have been unique.

Dr. THORNTON, of Queen Mary's Hospital, opened a discussion on the treatment of rheumatic carditis in children. All cases of true rheumatism suffered from carditis, which he divided into 3 groups: (*a*) fulminating, i.e., appearing initially; (*b*) acute, appearing in the first 2 or 3 weeks; and (*c*) smouldering. Complete recovery occurred not infrequently, but the incidence of permanent cardiac damage was high in instances where the rheumatic attack had been preceded by a definite attack of tonsillitis. Permanent valvular damage was present in 35.5% of a whole series of 1,100 unselected cases, but where the attack had been preceded by an acute tonsillitis the incidence reached 70%. The hearts of about 20% of children with rheumatic valvular disease were so severely damaged as to necessitate their leading restricted lives, and 3% were permanent cardiac cripples. In a third group of cases the damage seemed to be restricted to the conducting system resulting in persistent tachycardia or disordered cardiac action, and after generalized pericarditis had occurred expectation of life was inevitably short. Two unselected series of recently analysed cases of children admitted to hospital with rheumatism, 117 in each, showed that, in the children with tonsils present, 25% had severe cardiac damage, and 40% of the total had some cardiac damage. In the tonsillectomized series the respective figures were 12% and 28%. Children with rheumatic fever should not have their tonsils removed during the first three months of the disease, and not thereafter unless the erythrocyte sedimentation rate was consistently normal. Once a child developed permanent valvular damage it might in a large proportion of instances be said to be "written off."

Dr. GERALD SLOT entirely disagreed with Dr. Thornton's view that a child with permanent valvular disease was a complete "write off." He had followed several of these patients, who led perfectly normal useful lives, for over 20 years. Tonsils should not be automatically removed in rheumatic disease, as they were only part of the ring of lymphatic tissue round the pharynx, and removal of part of this ring would not necessarily be beneficial. Many physicians, especially in America and France, were conducting investigations on the lines that practically every child had had an early rheumatic infection, and that the specific changes seen in rheumatic fever were to be regarded as an allergic condition due to a previously infected heart. Dr. Slot fully agreed with Dr. Thornton on the need for rest, but pointed out the difficulty of deciding how long this rest should be. He suggested that when the pulse, the temperature, and the blood sedimentation rate had settled for a fortnight, the patient might be allowed up.

Correspondence

Postgraduate Education

Sir,—I submit that you have allowed the Colossus of London to dominate the picture of postgraduate education in the *Journal* of Sept. 14 to a quite disproportionate degree. In Scotland we are not unfamiliar with this provincialism of outlook, as it must, paradoxically, be called; but hitherto we have associated it with Whitehall rather than with Tavistock Square.

Two nosegays—I cannot call them bouquets—are thrown in passing to the great Scottish and other universities outside London, but otherwise your articles give credit to London and to London only. What is even more disconcerting is that your article entitled "Facilities for Postgraduate Education" devotes some 375 lines to London and only 25 to all the other universities and medical schools in the kingdom put together. Inasmuch as the title of the article purports that it is dealing with facts—and presumably facts in their proper perspective—this rather gross disproportion is open to criticism. Admittedly you say 'all the universities are making postgraduate arrangements *of some kind* [the italics are mine] although, of course, on a very much smaller scale, except perhaps in Edinburgh." Even for Edinburgh it seems to me that this hardly redresses the balance.

Sir Francis Fraser, in another of the nosegays, refers to the pioneer work in postgraduate education which has been carried on in Edinburgh for the last forty years. This has now been intensified and extended under a joint Board representing the University, the Royal College of Physicians of Edinburgh, and the Royal College of Surgeons of Edinburgh—the three bodies which have formed the stable foundation of the Edinburgh Medical School for more than two centuries. Since demobilization began we have conducted no fewer than seven courses of the "fortnight's refresher" type for those in or going back to general practice. These have been attended by 230 graduates, and more courses of this sort will be held at regular intervals.

The Board has also instituted teaching on a level suited to those studying to become specialists, and preparing for higher examinations. In the past year two courses of ten weeks have been held in internal medicine and in surgery; 140 graduates attended the medical and 280 the surgical courses. In the coming academic year we shall provide two courses in surgery, each lasting five months. The course starting in October is already full with nearly 200 entrants; for the second course, due to begin in the middle of March, we have already 150 names. In medicine we propose to hold three courses of ten weeks each, beginning in October, January, and April; 150 names are on the roll for the first of these, opening on Oct. 7. Other projects that the Board has in view are courses in obstetrics and gynaecology on a specialist level, and the teaching of the basic sciences of anatomy, physiology, and pathology.—I am, etc.,

R. W. Johnstone.
Chairman, Edinburgh Postgraduate Board for Medicine.

Sir,—The issues raised by Sir Francis Fraser in the Frederick Price Lecture (Sept. 14) are vital ones. The concept of a Federation co-ordinating for teaching purposes all the talent of London's great hospitals will commend itself throughout the English-speaking world. Unless precautions are taken, however, there is a danger that if the recommendations of the Goodenough Report in respect of postgraduate teaching are implemented along the lines suggested by Sir Francis undesirable factors now present may be perpetuated and even increased.

Nearly 13 years ago, as a young graduate of under 4 years standing, I arrived a stranger in London after crossing 12,000 miles of ocean on a pilgrimage which many thousands of men and women from the younger countries have made before and since. It was to seek further postgraduate experience in Great Britain and preferably in London. Of the kindness shown and assistance given by so many senior colleagues, both at that time and in the years since, I can never speak too highly. My only fear in writing this letter is that my criticism of a method, or absence of method, of postgraduate education may be misinterpreted and attributed to a lack of personal gratitude. This is not so. Fortunately there are many specialists in the United Kingdom who, if they happen to read this, will agree with the criticisms made, for these are the men who, realizing the great deficiencies which have existed in postgraduate facilities in London and elsewhere, have made every effort in their own hospitals and departments to provide appointments so attractive that the best men from over-seas, as well as from here, will compete for them. In the same way the Fellowship of Postgraduate Medicine has done splendid work in organizing refresher courses in London. My comments deal only with postgraduate education for consultants and specialists, and chiefly with that aspect which affects visitors from abroad, for it is on this that I am best qualified to speak.

In planning the Federation surely one of the first questions demanding an answer is what is meant by postgraduate education in medicine. The answer is not an easy one, for there are many aspects to be considered; and in the opinion of many, of whom I am one, it has been the failure to appreciate this which has been responsible for the unsatisfactory state of affairs now existing. If an effective system is to operate it must provide facilities for men and women with varying degrees of experience. It must provide for those who require refresher courses and for those who require prolonged clinical training in any of the special branches of medicine. It must demonstrate from the outset that the governing body of the Federation realizes that those facilities which are excellent for the one type of graduate are practically useless for the other. If these conditions are not fulfilled the system will be doomed to failure.

The man who comes to England after spending several years in resident and registrar appointments in large and efficient teaching hospitals in his own country comes usually with two main objectives. He wishes to secure appointments in which he can in the minimum of time secure the maximum of the experience he requires, and he usually wishes to obtain higher qualifications. Refresher courses can help him achieve the latter but they will do little to help him secure the former. He knows that the experience he needs cannot be given on mass-production lines, but must be achieved slowly and painfully as he works in personal contact with, and under the supervision of, those who having mastered are now prepared to teach. In terms of numbers the men who receive such training will be the few in comparison with the many who will attend the more popular and more academic refresher courses, but the prestige of the Federation abroad will be largely determined by the facilities it provides for the training of these few. They are the ones who once trained spread across the face of the earth and carry to forgotten places the ideals, traditions, and standards of work of the great hospitals which trained them. It has not been the thousands of occasional visitors attending refresher courses that have made hospitals such as the Brompton, Queen's Square, St. Mark's, the National Orthopaedic, and Chelsea Hospital for Women, to name but a few, such famous influences in world medicine. The secret of their success has surely been the soundness of the routine work done within their walls and the equally sound training given to those fortunate few selected for coveted resident posts. These men have acquired the professional skill, the human understanding, and the ideals of service to which Sir Francis Fraser referred, attributes be it noted which are not the prerogatives of the university teacher. Human nature being what it is the man who comes to London for postgraduate education does not come primarily to learn those important ideals, and I would wish to be the last to minimize their importance. In many, if not in most cases he has already been inspired at a more impressionable age by his undergraduate teachers. He visits London to learn more about the art and science of medicine and, if practice is made subservient to theory and the practical approach to human problems is given second place to the academic, then he will be disillusioned, and, a disappointed man, will seldom learn ideals from the one who has disappointed him. Herein lies the danger of entrusting the future of clinical postgraduate training to academic men occupying full-time chairs unless they have proved their practical ability and consultant status in competition with their colleagues. The contributions which they can make to the Federation are no less valuable than those of their less academic but more clinically minded colleagues. In fact, in some aspects of the work of the Federation their contributions will be by far the

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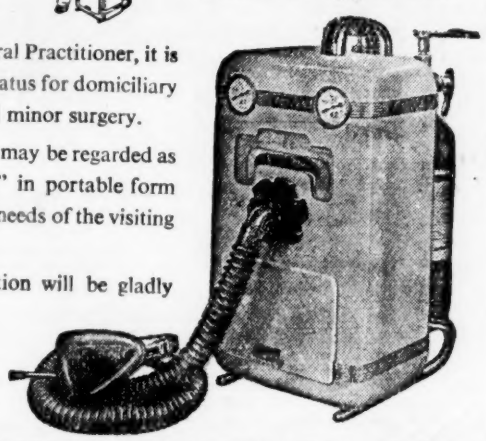

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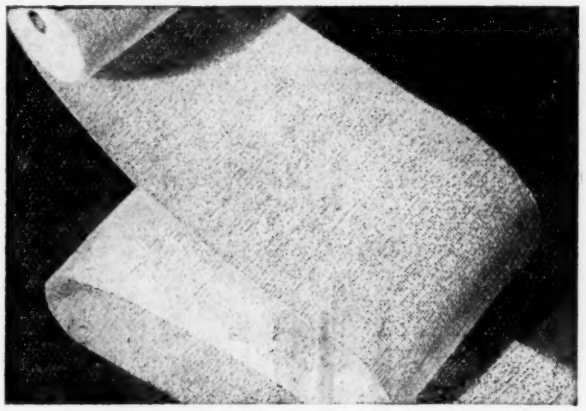

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greater, but the scope and influence of each should be recognized.

One disquieting fact which must be realized at this stage of planning for the future of postgraduate education in Britain is that the ties which have for so long united the younger countries of the Commonwealth to the Mother Country in matters medical have in recent years become weakened. There is a progressive tendency for the best men from the Dominions and Colonies to go elsewhere in search of experience. From South Africa and Canada more and more men are going to the welcome they receive in the United States, and this trend is now becoming manifest even in New Zealand, which up to the present has always looked upon it as a *sine qua non* that any doctor desiring to specialize would naturally go to Great Britain. In Australasia a further development has arisen with the rise of Melbourne as a great and keen medical centre offering excellent facilities for postgraduate study and experience. The result is that many men are asking why they should cross the world for training, which they may or may not be able to obtain, when they have the assurance of securing it so much more easily and cheaply nearer home. Others, who are usually carefully selected graduates, when offered Fellowships as inducements to work in leading American clinics accept these gratefully but with a natural regret that similar facilities are not available in Britain. Now the disturbing fact remains that this tendency to disintegrate has developed in some places, and progressed in more, in spite of the work and influence of the British Postgraduate Hospital which was opened in London over 10 years ago. The scheme Sir Francis outlines of building a Federation around this hospital is not free from danger and may even lead to a further weakening of London's influence as a postgraduate medical centre. If those hospitals which have done so much on their own initiative, and without university support, for the advancement of medicine and the prestige of British practice are now to be grouped as "scattered departments and institutes" of the Postgraduate Hospital then the union will not be an easy one. Questions of control, direction, and finance will become of paramount importance, especially when it is remembered that under a National Service the money for development will come from the University Grants Committee. The need for goodwill becomes obvious, but if this is to exist there must be adequate representation on the Governing Body of the Federation of those on whom the main responsibilities will fall for the conduct of clinical medicine in all its branches, remembering that these men will not usually be the full-time university professors.

One further way in which the Federation can be made the success which all would wish it to be is by co-ordinating its activities with those of the more important postgraduate units abroad, and particularly with those in the British Commonwealth. This means more than just welcoming visitors. There should be such reciprocity that selected men from abroad should work in responsible positions here and—of equal if not greater importance—selected men from here should work in corresponding positions over-seas. To make this possible in some centres the questions of reciprocity of registration will have to be settled. Only by this honest demonstration that we are as eager to learn as we are to teach will the full co-operation of the younger, and possibly more critical, countries be obtained at a time in our history when it is more necessary than ever before that the British Commonwealth should be united and sharing with sympathetic understanding a common destiny with all English-speaking people.—I am, etc.,

Oxford. JOHN STALLWORTHY.

Selection of Medical Students

SIR,—Dr. D. H. Smyth's extensive review of medical-student selection (Sept. 14, p. 357) is both timely and stimulating. I was, however, glad to see the case for selection further expanded in your more informed leading article and some of his misconceptions corrected. It may interest him to know that when the original experiments in officer selection were begun in 1941 Army psychiatrists and psychologists took up the problem where he has now left it off. Some of the questions which were asked at that time were: What are the qualities required in an officer? How can these qualities be classified? What tests should be employed to elicit them? How should the selectors be selected? What is the proper role of the expert? What administrative arrangements have to be made? How should selection integrate with training? Although most of these questions have been thrashed out and answered fairly satisfactorily nothing has as yet been published. This being so, and to minimize blind-alley thinking, it is as well to refer briefly to two major lessons learned in the Army after prolonged experiment.

First, it was found that the listing, classification, and testing of specific qualities was unproductive and unsound. It was soon realized that human personality is not made up of water-tight compartments which could be tested independently; like peace, it is indivisible. The static, orthodox approach gave way to more dynamic concepts. To classify the officer's jobs and then to assess the candidate's effectiveness for these jobs was found to be easier and more sound. Since many men with different constellations of qualities could be equally effective in the same job it was of little value to match them against a standard pattern of qualities. Judgment had therefore to be passed upon officer effectiveness and not officer quality.

Secondly, the laboratory type of test, so dear to the heart of the traditional psychologist, was abandoned in favour of the group test. There was a shift in emphasis from the *in vitro* test to the *in vivo*. The laboratory test, in which conditions were artificially controlled, suffered the severe handicap that the individual was extracted unnaturally from his normal social context and subjected to a scrutiny that had little to do with real life. Bion's brilliantly conceived leaderless-group technique is a major advance in the study of personality. After over four years of trial this method has shown that in selection the assessment of interpersonal relationships is at least as important as that of technical competence. Poor "contact" in an officer proved as serious as poor ability.

Psychiatrists on teaching staffs of medical schools—many of them with experience of Army selection—are alive to the problem of medical-student selection. Your leading article points out ". . . a planned attack must be made on the problem," and again, "There is a research problem here of urgent importance." Not only has this been appreciated here in Aberdeen, but a plan for a three years' programme of research is already being worked out. An investigation will be made into the following problems: the best composition of the selecting team; the development of individual and group tests and interviews; job analysis; the comparison of students' progress (as judged by examination and reputational grading criteria) with predictions based on the experimental procedure. At the end of three years it is hoped that enough will be known to permit of specific recommendations for new procedures to be employed. It will require about six years before the experimental phase is complete and a routine procedure introduced. The fact that this project is being planned and run by the Department of Mental Health should allay Dr. Smyth's anxieties about "psychologists" who know nothing about medicine taking part in the selection of medical students.

The aim of selection is admirably summed up in the last sentence of your leading article, ". . . the more the selection findings can be used for guiding the student . . . the easier will it be to achieve both good selection and good training . . ." Teaching is not in fact simply the imparting of knowledge: it is a special type of human inter-relationship which has a therapeutic as well as an academic aspect. During his medical course the student, in addition to the factual knowledge he more easily acquires, must become a balanced, mature, humane, and wise person. He can only build up such attributes through personal contact with his teachers, and the ultimate success of teaching depends upon the cultivation of that relationship. A good teacher is not so much one who "knows his stuff" as one who knows his students. It would be the aim of selection to promote this latter knowledge.

But for the "planned attack" to be effective it is not enough that it should be carefully organized for any single research project by any one medical school. There is a need for some central body which can direct and co-ordinate research in a number of medical schools. A co-ordinating committee should be convened for this purpose. What is required is rationalized research, in which the reputation of any single medical school is made subservient to the common good.—I am, etc.,

University of Aberdeen. D. R. MACCALMAN.

SIR,—Your leading article urging the co-operation of medical and non-medical psychologists in the selection of medical students (Sept. 14, p. 375) will be endorsed by all psychologists working in universities possessing both medical and psychological departments. But there is one remark which they are tempted to question: "the psychologist has advanced our knowledge of testing abilities, but the major developments in methods for investigating personality have come from medical psychologists." The view that psychologists have been chiefly concerned with the development of tests for intelligence and the like has been repeatedly affirmed by non-psychologists and as repeatedly denied by psychologists themselves. Can the writer cite any authority for his statement? Glance at the references given in standard works on personality by Allport or Cattell; less than 20% are by medical writers, and most of these deal mainly with theoretical inferences from the study of pathological cases. The most systematic researches of "methods of investigating personality" among students have been those concerned with the selection of members for the teaching profession; and these, almost without exception, have been carried out by psychologists. Even the methods of selection in the fighting Services, to which your article refers, have been mainly taken from the field of educational or industrial psychology.—I am, etc.,

University College, London. CHARLOTTE BANKS.

SIR,—May I offer some comments on the articles you published on the subject of the selection of medical students (Sept. 14)? I am confident that psychological methods could be usefully applied to this type of selection, but there are some details in which my views differ from those expressed by your contributors and in your leader.

A misleading idea of the proper psychological approach to such a problem may be given by too liberal a use of such terms as conscientiousness, sympathy, tact, etc. In order to design an efficient procedure one needs to relate observations made at two points in time: the first, when selection can be applied to a candidate; the second, when his success as a doctor can be judged. The evidence is used to argue from observations made at the first point to observations expected at the second. Terms such as those mentioned, since they describe qualities not directly observed, can only be used as intermediate terms in this argument. Out of the many observations which can be made conveniently and precisely at the first point they may provide a preliminary indication of the best to use. But they may also mislead. Thus Dr. D. H. Smyth concludes from arguments about the general nature of interests that attempts to assess them are not likely to be reliable or profitable. He recommends assessing only intellect and character. But can we in fact form any opinion about a man's character without collecting any evidence about his interests? Does not this argument lead us to ignore observations which can be made relatively conveniently, precisely, and perhaps usefully, and send us in quest of intangibilities? The condition of the candidates' teeth was reported by Dr. Fraser Roberts at a recent meeting of the Royal Statistical Society as second only to intelligence-test results in usefulness for selecting naval cadets. Could this result have been anticipated by general arguments about the nature of mental traits?

Dr. Smyth's view that the quality that should be estimated is "the ability to do whatever work is undertaken after qualification" rather than success in the second or final M.B. examination is also one that may lead to an incorrect appreciation of the problem. There is, as your leader states, an exceptionally wide variety of jobs open to the doctor; and a qualified man has a very good chance, judging by the evidence, of finding some work which he can undertake with satisfaction and success. But this also makes it exceptionally difficult to relate observations made at the time of selection to such diverse evidence of success. On the other hand, if a man fails to qualify speculation on the success he might have achieved after qualification is idle. Moreover, the open examinations provide a yardstick by which students selected and trained in different ways can be fairly compared. Training for the medical profession constitutes a "successive" selection procedure, and in such procedures, as I have already shown (1946), the most economical method of selection is to choose at each stage the men who have the highest probability of succeeding at the next. Finally, as every method of selection involves establishing an expectation from given observations, a point in time must always be defined at which this expectation can be reviewed and judged correct or incorrect, otherwise there is no means of judging good selection from bad.

I have some doubts about the suggestion in your leading article that the War Office Selection Boards provide a suitable model for the selection of medical students. The analogy between the selection of officers primarily for infantry regiments and that of medical students is not close. The National Institute of Industrial Psychology has been consulted for over twenty years by prospective medical students and has therefore had exceptionally useful experience in developing methods for assessing their suitability. May not this experience prove more relevant? But if your analogy is admitted as valid, would it not be advisable also to consider the appropriateness of methods employed in the selection of officers for the Royal Navy? The relative cost of alternative methods should also be taken into consideration. Of two equally successful methods the more economical should certainly be preferred.

But as you have raised this matter, might not this be a suitable occasion for inviting the War Office to publish a scientific scrutiny of the results obtained by W.O.S.B. methods? I would suggest particularly any evidence that is available on the following questions: (i) How much do they add to the preselection procedures applied to candidates before they reach the Boards? (ii) How much of an improvement are they on methods previously in use? (iii) To what extent do they ensure consistent standards at the different Boards? The final question is relevant to your point, "Common standards must be attempted, otherwise there will be injustice."—I am, etc.,

London, W.1. PATRICK SLATER.

REFERENCE
Slater, P. (1945). *Occup. Psychol.*, **20**, No. 1.

True Mediterranean Fever in England

SIR,—In your issue of July 20 Dr. E. F. Hunt, of Christchurch, Hants, gives an account of what he describes as "a true case of Malta fever infection by *Br. melitensis* in this country." If this claim were substantiated the position would be a very serious one as no case of indigenous infection with the *melitensis* variety of this organism is known to have occurred in this country. *Melitensis* infection usually causes a more severe illness than *abortus* infection, and the infection in this case was alleged to have been acquired from the milk of goats, infection in which has been looked for by various investigators for at least eighteen years but has never been found.

It is therefore of the greatest importance that the true facts in this case should be made known, so that Dr. Hunt's letter shall not stand unchallenged in the literature. Because of the importance of these issues very thorough investigation of all the factors concerned was instituted, and the results so far obtained have been uniformly negative.

Let me take first the alleged infection in the goats whose milk had been consumed by the patient. The pathologist on whose findings this statement was based found agglutinins for *Br. melitensis* but not for *Br. abortus* in the blood of one goat. This in itself makes the diagnosis extremely doubtful and subsequent thorough investigations by the Ministry of Agriculture's Laboratory at Weybridge of the blood of all the goats in the herd and the milk whey of the three nanny-goats, as well as cultures from the milk of these nanny-goats, have all proved entirely negative, as have also biological tests of the milk by injection into guinea-pigs. Similar agglutination, cultural, and inoculation tests on two male goats, three female goats, and two kids, comprising a herd in which one of the male goats was used to serve the nanny-goat in the original herd which aborted, have all proved entirely negative.

Now as regards the diagnosis of the patient's disease, Dr. Hunt states that the agglutination test was negative to *Br. abortus* but was positive to *Br. melitensis* in a dilution of 1 in 25. Such a titre has never been considered as diagnostic in itself, though of course it is well known that agglutination is sometimes negative throughout the course of this disease even when a positive blood culture is obtained. In this case, however, the culture of both the blood and urine was negative and the blood count gave 88% polymorphs and 6% lymphocytes, with a total white count of 4,700. This is not at all suggestive of

undulant fever. The clinical picture, into which I need not enter in detail, was consistent with undulant fever but, unfortunately, so are the clinical pictures in many cases of many other diseases.

Whilst I cannot help deploring the haste with which a diagnosis was published in this case, this may, I hope, be partly compensated for by the warning which it gives of the care which should be exercised in coming to conclusions in this most elusive disease.—I am, etc.,

Ministry of Health. WELDON DALRYMPLE-CHAMPNEYS.

Tobacco and Ulcer Dyspepsia

SIR,—While in no way disputing the findings and statistical agility of Messrs. Jamieson, Illingworth, and Scott (Aug. 31, p. 287), there are two very important combinations of the data which they have ignored: individual dosage and route of absorption. Dosage cannot be divided crudely into heavy, medium, and mild, depending upon the amount of tobacco actually consumed. The dosage of belladonna in my Parkinsonism patients varies from 18–360 minims (1.1–21 ml.) per 24 hours, and in each case the requisite dose gives the same amount of subtoxic result; therefore 18 minims is just as big a dose as is 360. I have seen a goodly number of patients who get undoubted symptoms of tabagism before they have consumed one cigarette, so that one cigarette per day may be heavy smoking for some persons.

Differences of toxicity depending upon the route of absorption are still ignored, though it is some years since I pointed it out. Thus mercury through the skin is little toxic, by stomach or lungs very; lead does not give plumbism in enormous dose by skin or vein, but by stomach or lungs traces are deadly; manganese does much good by mouth or injection, but traces inhaled cause degeneration of the lenticular nucleus; fluorides are consumed in large amounts in wines, etc., abroad with no ill results, but inhaled they cause deadly hurt. Tobacco smoked or by mouth does very little harm, but inhaled is sympathetic- and hepatic-depressant. Cigarettes are always inhaled; light pipe mixtures are usually inhaled; and heavy smokers will inhale the strongest tobaccos.

The excited "jittery" person takes to cigarettes; he has not the patience for the longer pipe and he inhales deeply but often not consciously; this depresses his sympathetic side with resultant gastroptosis, which induces traction on parts of the stomach and duodenum because these parts are relatively fixed by the gastric "ligaments." This leads to local ischaemia of certain well-known parts of the pyloric antrum and the duodenum, for the blood vessels of these parts may not be as elastic as the mesentery, and anyhow the lengthened vessel is bound to be reduced in calibre proportionately to the new length. Thus tobacco inhaled may be seen to be important in pathogeny, but unless these data are recognized it will be found that tobacco may seem to have no place in causation. Cutting down cigarettes, which is often advised, does no good; the one who does it invariably inhales all the more to get the desired result, so that the man who reduces from 20 to 10 may get more poisoning from the 10 than from the larger number. Then it takes about 6 weeks to get the effects of tobacco inhalation away from the sympathetic system of a severe addict. The relationship of tobacco inhalation, not smoking, to dyspepsia and ulcer formation requires a real investigation; it has not yet been done.—I am, etc.,

Bristol. A. T. TODD.

SIR,—Dr. Anthony C. Hamer's attempt to classify smokers according to types (Sept. 14, p. 402)—the lean cigarettist and the placid, comfortable pipist—is interesting. But is it not time that someone protested against the silly theory that smoking is a "reversion to the infantile sucking instinct"? What justification is there for this theory other than that of a would-be-clever guess? If mankind has to sublimate his "sucking instinct" by smoking it should seem strange to the logically minded that he never felt this urge until the 1600's, when tobacco was generally introduced. Strange, too, that men (and women) are prepared to pay the price of tobacco when a three-halfpenny teat would be cheaper and equally effective. And if the pipe smoker is psychologically sucking his mother's teats surely we should regard the gum chewer as a cannibal who is actually masticating them.

A protest, too, must be made against these loose remarks about nicotine. It is "swallowed in mouthfuls," and produces "nicotine-stained hands," according to Dr. Hamer. But the fact is that nicotine is colourless, and the brown stains caused by smoking are due to the products of combustion and would equally result from smoking brown paper. By all means let us observe that cigarette smokers have stained fingers, but do not let us be so unscientific as to speak of "nicotine" stains. With regard to the "mouthfuls of nicotine" said to be swallowed, it might be well to remember that tobacco contains about 2–4% of nicotine and that much of this is said to be destroyed by combustion. What *is* swallowed is saliva mixed with pyridine bases, particulate matter, a *soupçon* of the brothers Mono- and Di-oxide, and just a possible pinch of nicotine which had escaped combustion and condensation.—I am, etc.,

Alverstoke. W. H. EDGAR.

Endotracheal Tubes

SIR,—The rubber endotracheal tubes that are available for purchase at the present time are so hard that bleeding from the turbinate bones is easily caused during intubation via the nose, and this might bring the endotracheal technique in anaesthesia into disrepute.

These tubes can, however, be effectively and permanently softened by immersing them in ordinary kerosene, or lamp-oil, for one and a half hours. The tubes swell up somewhat during this process so that a size three Magill nasal tube, for example, becomes as large as the number five. Different degrees of softness can of course be produced by varying the time of immersion in the oil.—I am, etc.,

London, W.1. J. U. HUMAN.

Chronic Undermining Ulceration

SIR,—Owing to much travelling I have only just read Mr. Aubrey Leacock's article (Dec. 1, 1945, p. 765) on chronic undermining ulceration. In North India we saw many cases in infants of severe phagedaenic ulceration of the scrotum, in some cases both testicles being denuded. All except those moribund on admission reacted very quickly to dressings of potassium permanganate and left us only with a problem of surgical reconstruction.

I assume that the action in these cases is due to the high oxygen content. I suggest that potassium permanganate is easier to come by than zinc peroxide, used by Mr. Leacock.—I am, etc.,

Liverpool. GLADYS RUTHERFORD.

Penicillin Treatment of External Eye Infections

SIR,—I should like to add a few of our observations to Mr. J. Minton's article (Sept. 7, p. 324) on penicillin treatment of common external eye infections.

We find that although chemical lesions of the conjunctiva, especially lime burns, heal with less adhesions when treated with penicillin drops or ointment, complete healing of the lesions can be accelerated when the penicillin treatment is discontinued after about 1 week and replaced by sulphacetamide drops or ointment. Continued application of penicillin seems to delay the healing of these lesions.

Lacrimal sac infections which recur after treatment with penicillin drops and probing will often clear up with repeated syringing (twice daily) with penicillin 500–1,000 units per ml.

We also find that the skin lesions in herpes ophthalmicus will heal very quickly when treated with penicillin ointment, and if secondary infection is heavy with a course of systemic penicillin—15,000 units of penicillin intramuscularly every 3 hours up to 500,000 units. The post-herpetic pain seems less severe and if treated early enough the skin lesions seem less numerous and less extensive.—I am, etc.,

P. H. MERORY,
Registrar.
Wolverhampton and Midland Counties Eye Infirmary.

SIR,—Mr. Joseph Minton's paper on penicillin for external eye infections (Sept. 7, p. 324) prompts us to comment on some of the points that he raises. Mr. Minton states that he would expect his anhydrous ointments of penicillin in "eucerin L.M." to retain their full activity for over six weeks. We have found

that such ointments based on eucerin and containing 1,000 Oxford units per gramme show no noticeable signs of loss of activity after being kept at room temperature for over four months. By comparison it is of interest to note that an aqueous penicillin cream made with "eucerin L.M." and possessing an initial activity of 500 Oxford units per gramme will lose not more than 50% of its original activity after fourteen days' storage at room temperature; kept in the refrigerator such creams will retain at least 50–60% of their initial activity after three months. Similar results have been recorded for "eucerin L.M." creams by Greey and Hebb.[1]

It may be helpful to your readers if we add a few words on the difference between the original eucerin base ("eucerin anhydrous") and "eucerin L.M." We were first prompted to investigate the suitability of a eucerin type of base for the preparation of penicillin creams by the fact that "lanette wax," the base originally advocated for penicillin creams by the Medical Research Council, was found by a number of workers to exhibit certain unsatisfactory features. Among these were liability to cause irritation, conflicting reports regarding the stability of penicillin in creams based on the M.R.C. formula, and variations in the *p*H of the base. It was soon found that eucerin was useful and in some cases preferable to "lanette wax." However, constructive criticisms, particularly from Dr. M. Seiler of the Luton and Dunstable General Hospital, led us to develop a modified base which we called "eucerin L.M." and which has since been found very suitable for the preparation of penicillin creams.[2,3] This base, like eucerin itself, is of constant *p*H, conferring upon the aqueous phase a *p*H of about 6.5, and it was therefore expected to be particularly suitable for penicillin. The absence of irritant effects and the softness of the cream would appear to make it especially useful in eye work.

The main difference between ordinary "eucerin anhydrous" and the new base "eucerin L.M." is purely physical, the latter being more easily emulsified at ordinary temperatures and giving rise to a softer cream. There is no noticeable difference in the stability of penicillin in the two respective bases; both are anhydrous and neither gives rise to irritant effects. "Eucerin L.M." has therefore, in our opinion, no particular advantage over "eucerin anhydrous" in the preparation of anhydrous penicillin ointments for general work. It is, however, to be preferred for use in hydrous penicillin creams and, owing to its softer texture, particularly perhaps for eye work.

We agree with Mr. Minton's comments on the official *B.P.* oculentum, and we feel with him that careful attention must be given to the points he raises if such an ointment is to be used with success. In particular, the possibility that he points out of *p*H changes in an ointment based on wool fat warrants careful examination. This danger of free acidity developing does, of course, not arise when eucerin bases are employed, as here we are dealing with preparations of wool alcohols, which are free from the acid components still present in wool fat. —We are, etc.,

D. McAnally.
C. W. Picard.
Herts Pharmaceuticals Ltd.,
Welwyn Garden City.

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1 Greey and Hebb, *Canad. med. Ass. J.*, 1945, **52**, 550.
2 Grossmark and Plewes, *British Medical Journal*, 1945, **1**, 906.
3 Stark Murray, *Lancet*, 1945, **2**, 544.

Erythroblastosis: Liver and Brain Lesions

Sir,—On June 29 you published an article by R. J. Drummond and A. G. Watkins[1]—in which they show that chronic hepatic enlargement in children and adolescents may have its origin in congenital haemolytic disease. They suggest that Rh-factor investigations might reveal the cause in some cases of familial hepatic cirrhosis. On the other hand, it is well known that the icteric form of erythroblastosis often leads to damage of the basal ganglia and of other nuclear masses (kernicterus) and that a number of survivors suffer from a permanent affection of the nervous system. I have seen a case of double athetosis in which the family history was extremely suggestive of Rh-dyscrasia.

If then erythroblastosis can produce chronic liver damage on the one hand and chronic nervous disease on the other (especially disease of the lenticular nucleus) may it not also be an aetiological factor in those diseases in which the two pathological changes are found combined—Wilson's disease and Westphal's disease? Some of the family histories in the classical accounts of hepato-lenticular degeneration are very well in keeping with this idea.

Kinnier Wilson's first case[2] was the youngest but one of 9 children of whom 3, including the last one, had died in infancy. The two firstborn children were healthy as were some of the intervening ones. His fourth case was the last of three children of whom the first died at the age of 10 of ? tuberculous peritonitis, while the second was all right at the age of 22. After the birth of No. 3 (the patient) the mother had a miscarriage. Hadfield's case[3] was the survivor of two children. The other one had died at the age of six with an *enlarged liver and ascites* and was certified as *tuberculous peritonitis*. Barnes's famous family[4] consisted of 8 children. The three eldest were healthy, the following three developed progressive lenticular degeneration, the next had cirrhosis without evidence of lenticular involvement, and the last had a palpable liver at the age of three.

Not all the family histories on record fit in equally well with our hypothesis, but we know by now that the march of erythroblastosis does not always follow the classical pattern. The difficulties of fitting all the known facts into this Rh-theory are, however, enormous and I offer them together with the hypothesis to anyone who is interested. The facts seem to me suggestive enough to warrant further investigation, especially as the proof one way or the other should be a comparatively simple matter—viz., by Rh-investigations in sufferers from Wilson's and Westphal's disease and in their families.—I am, etc.,

Surgeons Hall, Edinburgh. Erich Geiringer.

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1 *British Medical Journal*, 1945, **1**, 984.
2 *Brain*, **34**, 295.
3 Ibid., **46**, 147.
4 Ibid., **47**, 239.

Trilene in Midwifery

Sir,—Recent correspondence in your columns on the use of trilene in domiciliary midwifery reminds me that you were good enough to publish a letter from me on the subject (Dec. 18, 1943). At that time I had been using Marrett's machine for over a year. I have now used it for more than four years in nearly two hundred maternity cases in private houses and in nursing homes, and I like it more than ever. With experience, this machine can give analgesia, amnesia, or full anaesthesia. I never now find it necessary to change to ether or to chloroform. As overdosage is so quickly signalled by tachypnoea, and as dosage can be immediately adjusted by the single quadrant lever of this machine, there is never any anxiety. In a number of cases I have had the opportunity of comparing this machine with a standard gas and air machine, and in every case the patient has been strongly in favour of the trilene. Such remarks as "I wasn't getting much relief from that gas thing; but it made all the difference when I got your machine," are usual.—I am, etc.,

Ashtead, Surrey. W. Edwards.

Africans, Peptic Ulcers, and Parasyphilis

Sir,—It is perhaps fortunate that Dr. Wright's Abdulla (Aug. 31, p. 311), or for that matter the great mass of East Africans, cannot read the large conglomeration of medical inaccuracies which has already been written about them. Dr. Wright should not be dismayed because history is repeating itself and we are again witnessing the outpouring of so-called authoritative pronouncements from medical men who have spent a few brief months only in tropical Africa. It does not appear that they have taken the elementary precaution to consult the easily accessible medical literature on their particular subjects before rushing into print with them. On the other hand we must not assume that peptic ulceration exists to any great extent among East African natives merely because Abdulla, a Nubian, who has lived on a diet of rice, eggs, meat, chicken, and curries for most of his Kenya existence, has fallen a victim to this disease.

Abdulla's dietetic habits cannot be compared with those of the rural Nilotic Luo or the rural Bantu Kikuyu, and it is surely from these tribes, which comprise the great majority of the African population of Kenya, that reliable statistics must emanate—and these statistics will not be available until native hospitals in reserves are equipped with *x*-ray plants. As these

hospitals have not yet emerged from the bucket-latrine and hurricane-lamp stage of development we shall, alas, have to wait many years for reliable figures. In the present state of our knowledge Sir Heneage Ogilvie and Dr. Wright are merely guessing, and their observations should not therefore be taken too seriously.

As regards parasyphilis, Dr. Wright is on much safer ground. Neurosyphilis is far from being unknown among East African natives. During a medical survey of a native population heavily infected with syphilis I found four undisputed cases among over 90,000 people examined. Reference to Dr. Gordon's work at Mathari Mental Hospital, Nairobi, would have been sufficient to dispel the illusion of the non-existence of parasyphilis among East African natives.

After twenty years' experience of East African tribes I would sum up the present position with regard to peptic ulceration and parasyphilis as follows: (1) Peptic ulceration is uncommon among rural East African natives but more common among their urban detribalized brethren. (2) The incidence of parasyphilis in relation to other forms of syphilis is low.—I am, etc.,

"AJUOGA."

Health Service Bill

SIR,—I fail to see the use of a referendum until the profession is told the detailed terms of the Service on which it is to vote. Few doctors will be voting for or against an ideology, but rather from the practical standpoint of the advantages offered by a State Service against those offered by the present methods of private practice.

Speaking as a general practitioner, there are certain advantages which a State Service could offer for which I would willingly give up my so-called freedom. I would wish to know first, that I am to be paid a salary which I consider an adequate recompense for the amount of work I do; for my professional knowledge; for the responsibility I bear; and for the position I have to keep up. I, personally, believe that all private practice should be abolished, and that all doctors should be paid a salary and not remunerated by capitation fee. Only so can professional competition be eliminated, which, *per se*, leads to exploitation of the "bedside manner." Secondly, that I shall be paid a living pension at a reasonable retiring age. With present taxation and the high cost of living there are few of us who can even contemplate retirement before we drop in our tracks. Thirdly, that provision will be made for a twelve-hour day, which is certainly practicable in urban areas. What other "working man" is expected to be on duty day *and* night, 24 hours a day, 7 days a week, and for at least 11 months of each year? I fail to see where our freedom lies. The public, because of a free service (the N.H.I.) and the increased consciousness of health, expects so much of a doctor now that someone, for humanity's sake, must protect us against the greater labour demanded of us. We should be entitled to the same freedom as other men to give to our other pursuits and to our families, and the profession should have been sensible enough long ago to have instituted such a service within itself.

Nor do I see the practical purpose of a referendum (in the event of the majority of the profession voting against a National Health Service) unless the B.M.A. is ready to play its one and only trump card against a dictated Service, and, like all good trade unions, calls a general strike. If the Minister is not willing to negotiate, what other redress has the profession got? Are we to surmise that the B.M.A. is willing to do this?—I am, etc.,

Englefield Green, Surrey. W. E. R. BRANCH.

SIR,—In 1942, while D.A.D.M.S. of a division in the Middle East, I had to arrange discussions by British medical officers of the then proposed national health scheme. These doctors, whose ages ranged from 25 to 45, comprised a representative cross-section of the profession. They were all keenly interested and nearly all favourably inclined towards the plan. Two recommendations were made by that group: (1) That the serving doctors be kept informed of all progress; (2) That the final draft should wait until general demobilization to allow of consultation with the rank and file of the profession before reference to Parliament.

Since demobilization in April this year I have been able to discuss the new Bill with a large number of doctors, many of whom are ex-Servicemen, in urban and rural practices in different parts of the country. Their unanimous antagonism towards the Bill struck me forcibly. I am convinced that this impressive change of attitude is due entirely to the despotic manner in which the Bill is being imposed upon us. Among the very men who were once so anxious to co-operate in the planning and working of a national health service there is now a bitter resentment and anger against the unscrupulous employment of political advantage to dragoon the entire profession into the sullen, reluctant acceptance of a scheme in which the basic conceptions of British justice and individual liberty are so ruthlessly denied—denied, moreover, to a body of men and women whose pride has always been their personal and corporate service, their self-sacrifice and devotion to the needs of all people in both peace and war.

Drs. Zoë and Paul Harris (Sept. 21, p. 439) have clarified the issues and exposed the basic reasons for this bitterness and reaction. Others have pointed the way to a just remedy. Each and every one of us who believes that this Bill is unjust, contrary to our conceptions of individual liberty, and not in the best interests of the people and the profession must resolutely refuse to compound with those who seek its imposition, until reason replaces repression. We must realize that every advantage will be taken of us: our lack of unity, divergent interests, our innate dislike of "trouble," our fear that, unless we come in, we alone, or almost alone, will remain outside, and above all our absorption in the unceasing duty of caring for our patients, in whatever capacity we treat them. Who hate evil must resist it. Shall it be said of us that we, who counsel and tend others in their adversity, are helpless in our own cause?—I am, etc.,

Birmingham. DOUGLAS VANN.

SIR,—I would like to reply to Dr. Norman Maple's comments (Sept. 14, p. 400) on my letter of Aug. 31. To confuse Nazism with Socialism is to reveal an extraordinary lack of political insight. This is regrettable, for without such insight it is impossible to understand the economic and social changes, including the integration of medicine, which must take place, and which are taking place in the world to-day. Dr. Maple obviously deplores the fact that a Labour Government was returned to power by less than one half of the electors in the country (and I presume that he would have been quite content if the party for which he cast his vote had been similarly returned), but we must face reality and accept the fact that the present Government was returned and is in power right now. What he and many others are in effect saying is that "democracy is all very well just so long as it doesn't touch us." It is naïve to a degree to suggest that the Minister of Health will have dictatorial powers. Every Minister of the Crown is responsible to Parliament. I quite fail to see how there can be dictatorship provided that doctors and other health workers make use of the democratic machinery which will be at their disposal. The profession will have adequate representation at all levels.

I am not uncritical of the Bill. I think it could be improved in many respects. Least of all do I suggest that Dr. Maple should be prohibited from making his attitude known in whatever way he thinks fit, and nobody can stop him from striking if he thinks it will do him or anybody else any good. I do maintain, however, that once the Bill becomes law we should do our best to make the Service a success and that we should thereafter constantly try to improve it in the light of experience. Finally, I repeat that I think an appreciable number of doctors will work in the new Service to the best of their ability despite the irresponsible accusations that they are "quislings," "traitors," "blacklegs," or what you will.—I am, etc.,

Scarborough. PETER WADDINGTON.

Equal Opportunity for Specialists

SIR,—Medicine is gravitating towards State control and Mr. Bevan announces that it is hoped to operate the scheme contained in the Health Service Bill some time in 1948. When the Bill has become law the vast majority of the medical profession will in fact be servants of the State, owning allegiance to a common higher ultimate authority—the Minister of Health. The members of the profession will (so Mr. Bevan hopes) be united by a mutual bond, that of unstinted service for the

common health, and conditions of service within the State medical scheme will follow a uniform pattern according to grades—e.g., clinician or administrator, general practitioner or specialist. In the case of the specialist, and, in particular, that of the surgical specialist, I would make a plea for non-preferential consideration and equality of opportunity with regard to appointments. Is it just to preclude a surgical specialist with a diploma of Fellowship other than that of the Royal College of Surgeons of England from applying for specialist appointments as is very frequently the case at present? Will this selectivity persist when the profession comes under the aegis of the State, and does this suggest that political support may even be accorded to particular medical schools to the exclusion of others? It is devoutly to be hoped that no such bias will develop, for herein lies the threat of aggravation of the preference already in existence.

It is as true to-day as it was a hundred years ago when Dr. Andrew Combe in his "Memoirs"—quoted by Dr. John Brown in *Horae Subsecivae*—said: "The one great object ought to be the due qualification of the practitioner, and whatever will contribute to that end ought to be retained, whether it may happen to agree with or differ from the curricula of other universities or licensing bodies. The sooner one uniform system of education and equality of privileges prevails throughout the kingdom, the better for all parties."—I am, etc.,

W. R. BLACK.

Capitation Fee

SIR,—This fight has got to come, and the sooner the better. My own feeling is that the Resolution of the Insurance Acts Committee is not strong enough. We must be as uncompromising with the Minister as he has been with us, and as he obviously intends to be in the future. Though the Resolution notes the failure of the Minister to keep a specific pledge to apply the Spens Report to the current panel remuneration, it somewhat naïvely suggests asking him to renew and keep the identical pledge, or alternatively to pledge himself in advance to accept an interpretation by the Spens Committee or some other agreed-on body. We have learnt the value of ministerial pledges. More important still, perhaps, is the fact that reference to the Spens Committee or other body involves delay—possibly, on the Minister's part, intentional delay. As he is admittedly attempting to make the N.H.I. capitation fee the criterion of payment under the medical Service, it is essential, in our present interests and the future interests of the profession as a whole, that our attitude on terms of service should be definitely crystallized, if possible before the Bill gets its third reading in November and certainly before the Regulations are even discussed by the appropriate Parliamentary committee.

As I see it, we have now reached the last ditch but one in which to fight for proper terms. The suggested course of resigning from the N.H.I. is a pistol at the Minister's head which will be only at half-cock if we palter about asking for further pledges, the value of which we have learnt to assess to a nicety. This question of panel remuneration is one which affects our own present financial position no less than our future prospects. Definite and decided action now will have a very healthy moral effect. Fight, and no quarter!—I am, etc.,

Arlesey. M. LETHBRIDGE FARMER.

The World Health Organization

SIR,—In the *Journal* of Sept. 21 (page 428) information is given about the World Health Organization of the United Nations. The functions proposed for this body appear to be useful, reasonably precise, and what might be looked for in an effort to share medical knowledge throughout the world. Unfortunately, some "principles" are announced as a basis of the work and these are either useless platitudes or clownish nonsense. What faith can be put in the work of people who announce that they will be guided by the proposition that "health is a state of complete (sic) physical, mental, and social well-being and not merely the absence of disease or infirmity"? Are the members of this organization to be people who believe that such a state is compatible with human life in a state of consciousness? If a poet spends nights in mental struggle and his son suffers from eating too many apples and his daughter is ostracized by the church choir, what is the World Health Organization going to do? Next it is declared that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being." Who conferred this right and who has deprived us of it? Then we are told that "the health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest co-operation of individuals and States." If so, peace and security must be things as yet quite unknown and perhaps non-existent. Other "principles," equally ridiculous, follow, and lastly this: "Governments have a responsibility for the health of their peoples." God save the peoples!—I am, etc.,

London, W.1. J. M. ALSTON.

Sir Almroth Wright and Anti-typhoid Inoculation

SIR,—I have read with interest the letter of Dr. Leonard Colebrook on the above subject (Sept. 14, p. 398). I was surprised to see that in Dr. Guthrie's *History of Medicine* the discovery of anti-typhoid vaccine was attributed to the late Sir William Leishman.

I would like to confirm Dr. Colebrook's letter from my own personal experience. I entered the Royal Victoria Hospital, Netley, as a surgeon-on-probation, A.M.S. (as it then was), in October, 1897, for a four-months' course of instruction. At that time Wright was professor of bacteriology there. During the course he was stressing the importance of anti-typhoid inoculation and did many inoculations among our members. His laboratory assistant was Capt. F. Smith, A.M.S. Sir William, then Capt., Leishman had only recently joined the staff of the Royal Victoria Hospital, and had no connexion with the bacteriological laboratory at that time.

I would further add that had he been alive Leishman would have been the first to disclaim any credit for this discovery, as he was one of the most modest and unassuming officers I have ever had the privilege of being associated with.—I am, etc.,

A. H. O. YOUNG,
Tavistock. Lieut.-Col., R.A.M.C.(Ret.)

The False Preconceived Notion

SIR,—In an address to the Indian Congress of Philosophy last year I drew attention to a test for what Hippocrates termed the false preconceived notion but which, when you believe in it, you consider to be a well-established principle. The test is based on the capacity of the false preconceived notion to give rise to conflicting hypotheses of seemingly equal validity. If then one meets such conflicting hypotheses one should not humanly attempt to make choice between them but instead be critical enough to find out what all are agreed on and reject that. The simplest case comprises the conflicting hypotheses of dissociation and repression. Since both parties through these hypotheses agree that consciousness is a force, one rejects the assumption that consciousness is a force.

As noted by Parsons, the physiology of vision comprises a mass of hypotheses which are in conflict but of seemingly equal validity. Hypothesis-making may well be held to have run riot over dark accommodation. In this case the common factor is a belief that the natural stimulation of the eye is the same as the electrical excitation of muscle and nerve. We therefore drop this belief and get a clean slate to write on. I believe, however, that statistical treatment of those theories would "prove" that their common false assumption was true. I have taught my own students that the false principle, if firmly held, makes us puck-struck and starts us arguing to no result. Perhaps we are all puck-struck over shock. If such be the case, then after the next symposium of surgeons on shock some young surgeon should critically examine its proceedings to find out what theory about it his seniors agree on. This theory he should reject. After the rejection he will have an entirely new field to survey. He might even find that the word shock itself serves as a wand to Puck.—I am, etc.,

University of Rangoon. W. BURRIDGE.

Pronunciation of Medical Words

SIR,—I would like a ruling on the pronunciation of the word schizophrenia. Even among alienists one hears a bewildering assortment of pronunciations: skizo, skitzo, skidzo, shizo, etc. I incline towards skitzo, but would like to know which is correct.—I am, etc.,

Bournemouth. MARGARET VIVIAN.

Obituary

T. WATTS EDEN, M.D.,
F.R.C.P.Lond., F.R.C.S.Ed.

Although Dr. Watts Eden had been living in retirement in South Devon for some years, he is still remembered as one of the foremost obstetric physicians and gynaecologists in London hospital and consulting practice for thirty years or more, and the many who knew him, both in professional and private life, will learn of his death on Sept. 22 with more than ordinary sorrow.

Thomas Watts Eden was born on May 8, 1864, at Evesham in Worcestershire. He was educated privately and took his medical training at the University of Edinburgh, graduating in 1888 M.B., C.M. with first-class honours. He said in later life that when he was capped bachelor of medicine he believed himself to be equipped with a great body of exact knowledge which would carry him through everything, but that his post-graduate career had been a salutary succession of discoveries of his own lack of omniscience and also of the fact that teachers and even textbooks might occasionally be wrong. But he had ground for self-confidence, for he was an exceptionally brilliant student. He gained the Ettles Scholarship, awarded to the most distinguished Edinburgh medical graduate of his year, also the James Scott Scholarship, awarded for the greatest proficiency in midwifery and gynaecology. In 1889 he received the Leckie Mactier Fellowship of the University as the graduate best fitted to undertake research. If Edinburgh left any gaps in his equipment, these were made good by later studies in London, Berlin, and Leipzig, where he gained practice in operative midwifery. In 1891 he proceeded M.D., again with honours. The Fellowship of the Royal College of Physicians of London and of the Royal College of Surgeons of Edinburgh were added to his distinctions some years later.

From the beginning of his career he devoted himself to the practice of midwifery and gynaecology. Apparently his first published writing was "A Study of the Human Placenta" in 1896. He soon acquired a high reputation in his chosen field. In 1906, at the time he wrote his *Manual of Midwifery*, he was already assistant obstetric physician and lecturer on practical midwifery to Charing Cross Hospital, physician to out-patients at Queen Charlotte's, and physician to in-patients at the Chelsea Hospital for Women. He retained his connexion with these three hospitals throughout his career, and on his retirement on reaching the age limit became a member of the consulting staffs of all of them. It was at Charing Cross that he had the greatest opportunity of exercising his teaching gifts. He once declared that it was obstetric teachers rather than obstetric teaching that needed reconstruction. Teachers, he said, should be men with a fair amount of leisure, and teaching ought to be their principal occupation instead of being, as it was with so many of them, a mere incident in a busy life. His life was busy enough, but he was nevertheless a popular and brilliant teacher, and generations of students learned from him lessons of incalculable value in obstetrics—resource in emergency, foresight, scrupulous care. He was first of all examiner in midwifery and diseases of women for the Conjoint Board, and afterwards examiner to the Universities of Oxford, Cambridge, Edinburgh, and Leeds. Thus he came to exercise a large influence upon the progress of midwifery in this country. He was one of those to whose work must be attributed the striking change in obstetrics and its practice, chiefly as a result of its permeation by the spirit of preventive medicine, which came about in the second and third decades of this century. He insisted that the conduct of labour must always be regarded as a surgical procedure; it was true that it might be, and generally was, the simplest kind of surgery, but, on the other hand, it might be transformed into a major surgical operation. Always an opponent of narrowness in specialism, or what he called "the keyhole view" of medicine, he insisted that it was the duty of the obstetric specialist to maintain his touch with normal labour by undertaking the private care of a number of such cases every year, in addition to his hospital work. The deplorable thing, in his opinion, was that complicated cases should pass into the hands of a few men in each locality, while the remainder of practising doctors withdrew from midwifery work and left it to midwives.

With such ideals he helped to found the British (afterwards the Royal) College of Obstetricians and Gynaecologists in 1929. He was one of the first Fellows of the new College and a member of its first full council. He was also President of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, and in 1930 he succeeded Lord Dawson of Penn as President of the Society itself, being the second President since the amalgamation—Sir Francis Champneys was the first—to represent the province of obstetrics. On several occasions Watts Eden held office in the Section of Obstetrics and Gynaecology at Annual Meetings of the British Medical Association, and at Cardiff in 1928 he was President of the Section. From 1932 to 1940 he served the Association as a member of the Consultants Board, which was set up to deal with applications by practitioners for the inclusion of their names in the Consultants' List. Another of his interests was his membership of the Governing Body of the British Postgraduate Medical School. He was also an honorary member of the American Gynaecological Society.

Dr. Eden's best-known writing was his *Manual of Midwifery*, which went through seven editions. In 1911 he wrote a *Manual of Gynaecology*, and in 1916, with Mr. Cuthbert Lockyer, his colleague at Charing Cross Hospital, he produced a very large work, running to a thousand pages, entitled *Gynaecology for Students and Practitioners*, which went into four editions. In 1917, again with Mr. Lockyer, he edited *The New System of Gynaecology*. In addition he wrote numerous articles in Green's *Encyclopaedia of Medicine*, Quain's *Dictionary*, and the *Proceedings* of various societies. Early in his professional career he edited the *Journal of Obstetrics and Gynaecology of the British Empire*, and he continued to serve it as chairman of the Board. The *British Medical Journal* over a period of many years had the advantage of publishing reviews by Dr. Eden of works on his own subject. He was as conscientious a reviewer as he was a physician, and although some authors may have felt that he exposed their weak points, they could not complain that he had not read their books before reviewing them. A review, according to his practice, should include an outline of what the book is about, instead of, Macaulay-like, making the book a peg on which to hang a brilliant dissertation on its subject.

In the great inquest which occupied the attention of obstetrical circles during the years following the first European war, when the obstinately high maternal death rate seemed to defeat all efforts to bring it down, Dr. Eden took a conspicuous part. He served on the Committee on the Causation of Puerperal Morbidity and Mortality from 1925 to 1928, and in all the important discussions of that time his voice was heard, and always to some practical effect. It was his view that the general practitioner had not always been fairly treated in the criticisms which were forthcoming, and he insisted that in domiciliary midwifery which the practitioner attended the minimum of safety given by the presence of a trained midwifery nurse should be provided. The old-fashioned "handy-woman" he called an unclean anachronism, a reminder of the days which produced Sairey Gamp. No one was more earnest in pointing out the importance of antenatal and postnatal care.

Until well over seventy, when cardiac weakness prevented much physical exercise, Watts Eden enjoyed a round of golf, and in earlier days riding horseback. To one who had the privilege of his companionship the distinguishing features of the man were his modesty and lack of self-seeking, his moral courage and wisdom in counsel, his dry but kindly humour, and above all his tender concern for the welfare of friends.

NEIL MACLEOD, M.D., D.P.M.

His many friends and colleagues were shocked to learn that Dr. Neil Macleod, the well-known psychiatrist, had been found shot dead on the night of Sept. 21 in a ditch at Tingley cross-roads, five miles from Leeds. A man was arrested later and charged with his murder.

For several years up to 1939 Neil Macleod was medical superintendent of The Retreat, the famous mental institution run by the Society of Friends in Haslington Road, York. He became honorary physician for mental and functional nervous diseases at York County Hospital and adviser in psychological

medicine to the regional headquarters of the Ministry of Labour and National Service in Leeds. He was born in 1894 in the Island of Skye and studied medicine at the University of Edinburgh, where he graduated M.B., Ch.B. in 1918 and M.D. with commendation in 1928. He joined the Army as a private in the 1914–18 war, but when the authorities found that he had medical knowledge he was transferred to the Navy and was present at the Battle of Jutland as a surgeon probationer. He took the English D.P.M. in 1924. Before taking up the post of medical superintendent of The Retreat he had been assistant physician at the Royal Edinburgh Hospital for Mental and Nervous Disorders, Morningside, and at the Sunderland Mental Hospital. He joined the B.M.A. in 1919, was a member of the Royal Medico-Psychological Society, and a past president of the York Medical Society. During his time in York and Leeds Dr. Macleod often gave expert evidence at murder and other trials. He contributed the section on psychological medicine to the eighth and ninth editions of *Savill's System of Clinical Medicine*. A brilliant after-dinner speaker, he was in much demand by St. Andrews societies and other Scottish gatherings in the North of England. He met and married his wife, formerly Dr. Mary Elizabeth Macarthur, while they were both on the staff of The Retreat, and he leaves her with two young sons.

Dr. Peter Macdonald writes:

It was an overwhelming shock to see the announcement of the tragic death of Dr. Neil Macleod. His many friends, among whom I am proud to claim that I was one of the most intimate, will regard it as a disaster of the first magnitude. They will remember his genial character, his outstanding prowess as an orator, his apt phraseology, his quite remarkable choice of the fitting word, and with all and over all his transparent sincerity in everything he said and everything he did. He had not an enemy in the world, and those who knew him will treasure his memory with both affection and respect.

During his tenure of office as superintendent of The Retreat, it is not too much to say that he added lustre to that pioneer institution in the modern treatment of lunacy, and since he retired from that position he bade fair to become, in fact he had become, one of the leading psychiatrists in the North of England. His loss is a calamity not only to his many friends but also to the general public, who can ill spare him.

LIEUT.-COL. HASSAN SUHRAWARDY, M.D., LL.D., D.Sc., F.R.C.S.I.

Sir Hassan Suhrawardy (as he was known until recently) died in Calcutta on Sept. 18 aged 62. He was the first Indian to be appointed an honorary surgeon to the Viceroy of India, and had a most distinguished career in medicine and in the public service of his country.

He was educated in Calcutta at the Mohammedan Madras College and at the Medical College Hospital, where he held resident appointments. He subsequently studied in Great Britain, where he took surgical, obstetrical, and public health qualifications. On his return to Calcutta he had a distinguished professional career and rose to be Chief Medical and Health Officer of the Indian State Railways, honorary professor of public health and hygiene, and Vice-Chancellor of Calcutta University, vice-president of the Medical Council of India, and honorary consulting surgeon, Medical College Hospitals, Calcutta. He was the author of a *Manual of Post-operative Treatment* and of many papers. Great as were his professional attainments they were supplemented by public service and activities in many directions. He was a strong supporter of the Mohammedan cause in India and the Moslem League, and made a number of pilgrimages to holy places of Islam. As recently as 1945 he was appointed to the chair of Islamic history and culture in Calcutta University. He early entered the Bengal Legislative Council and became deputy president in 1923–5. His versatility is further shown by his appointments as President of the Board of Studies in Arabic and Persian and of the Calcutta Branch of the British Medical Association. He was also a first class magistrate and J.P., and did good work in organizing railway ambulance and nursing services. In 1930–3 he commanded the 2nd Battalion Calcutta University Training Corps.

In 1932 he was knighted immediately after a brave act in saving the life of the Governor of Bengal when a student attempted to shoot him in the Senate House of the University. A very distinguished career was crowned by his appointment in 1939 as Adviser to the Secretary of State for India in London, a post he only relinquished in 1944. His whole life was one of devoted professional and public health service, which gained him universal respect and admiration. In spite of his political activities, he remained most loyal to his *alma mater*, the Calcutta Medical College, and did not fail when in Great Britain to visit his old medical college teachers. If Indians of his stamp and unswerving devotion to the interests of the Indian people as a whole are forthcoming in sufficient numbers to administer the country the outlook need not be despaired of. Sir Hassan renounced his knighthood a few weeks ago, when the Moslem League decided that all its members should give up their British decorations.

The untimely death, at the age of 59, of Dr. Stewart Hodgson, *M.C.*, occurred at his residence in Edinburgh early in August. Educated at George Heriot's School, Edinburgh, he proceeded to the University, where he graduated M.B., Ch.B. in 1910. After a period as resident physician to the late Prof. Greenfield, in the wards of the Royal Infirmary, he began practice in the north side of Edinburgh and continued there to within a year of his death. On the outbreak of the 1914–18 war, Dr. Hodgson was gazetted to the R.A.M.C., and was awarded the Military Cross for his excellent work on the Western Front. After demobilization he resumed practice in Edinburgh, and was also actively engaged in Ministry of Pensions work, where his intimate knowledge of medicine proved of inestimable value in this department. At the outbreak of the recent war he quickly offered his services in A.R.P. duties, and was in charge of one of the aid posts which, owing to his enthusiasm and good example, was organized as a most efficient unit. Dr. Hodgson will be remembered with esteem by his patients and colleagues alike, not only for his efficiency, kindliness, and sympathy, but also because of his cheerfulness and good humour. He joined the B.M.A. in 1920, and in 1935 represented his Division at the Annual Representative Meeting held in London. He was keenly interested in all forms of sport, and in his younger days captained George Heriot's Cricket XI. As a schoolboy he was outstanding in athletics, being games champion in two successive years.

Dr. James William Albert Wilson, of Wisbech, died while on holiday after only a few days' illness at the Royal Infirmary, Cardiff, on Sept. 10 at the age of 66. He was a native of Portaferry, Co. Down, and received his medical education at Queen's College, Belfast, graduating M.B., B.Ch., B.A.O., in 1903. He then went as an assistant to Dr. J. L. Thomas, who had a large colliery practice at Blaengarw, Glamorgan, and when Dr. Thomas left Dr. Wilson succeeded him. He soon won the confidence and even the affection of the Welsh colliers. One indication of his whole-hearted interest in the colliers' life and welfare was his study of miners' nystagmus. He made one of the earliest and most valuable contributions to the study of this industrial disease, and his thesis on this subject won him the M.D. degree in 1912. In 1915 he moved to Wisbech, but decided to join the Indian Medical Service for the period of the war, and was sent to German East Africa. Few doctors have had to solve such difficult medical problems as those that presented themselves to Dr. Wilson during the next two years. Although his health had been greatly impaired by malaria and dysentery during this period he returned to Wisbech in 1919 with his characteristic buoyancy and cheerfulness. In virtue of his medical and surgical skill, Dr. Wilson's practice soon became one of the largest in the Wisbech district. For many years he was honorary medical officer of the North Cambridgeshire Hospital, served on the Ely Panel and Medical Committee, and gained experience of public health work as medical officer for Walsoken, Walton, and Emneth, Dr. Wilson (writes E.O.L.) was a general practitioner of the best type—a keen and discriminating observer, well-informed in the most modern treatments, had a broad conception of the essentials of health, physical and mental, and, above all, a sympathetic understanding of human nature. At the present time, when many of us are concerned about the "municipalization" of the doctor, would that some of our best writers were to portray the drama, romance, and devotion of the general practitioner's life! Such writers could do much to stir the public and its legislators to a realization that our country will probably lose much more than it can possibly gain if the medical services are overstandardized. One danger of general practice is that it tends to exclude all other activities; the doctor has no time to be a citizen also. Dr. Wilson, like many others, avoided this danger, and did so without neglecting his patients. He had many public interests. In 1923 (while chairman of the Ely Division

of the B.M.A.) he became a member of the Wisbech Borough Council and was mayor in 1932 when the late Duke of Kent visited the agricultural show at Wisbech. He took a lively part as a Liberal in politics, and his ready Irish wit made him a popular platform figure. In this field, as in all others, he was thoroughly sportsmanlike. The burial took place at Wisbech amid many manifestations that the town had lost a great citizen. A memorial service was held at the Congregational Church; every aspect of the town's activities and social services were represented in this large assembly. Dr. Wilson married twice. His first wife died in 1928. Heartfelt sympathy is felt with Mrs. Wilson, especially as it was but two months ago they settled in their new home and looked forward to years of ease and even greater happiness.

The death on Sept. 19 of JOHN HOWARD COOK, M.S., F.R.C.S., at his house in Hampstead, aged 75, removes the younger of a pair of medical brothers who were, in their own sphere, as famous as their contemporaries the Mayo brothers in the United States. They were the sons of W. H. Cook, M.D., of Hampstead, and both were educated at St. Paul's School, where each in turn swept the board in scholarships and prizes. Both in turn went to Uganda to the C.M.S. Hospital at Mengo, the reputation of which they placed on a firm foundation. The elder brother, Sir A. R. Cook, C.M.G., was there in time for the Uganda Mutiny of 1897–8, when he played a notable part in the medical care of the casualties: the younger brother joined him not long afterwards, and for many years they were undoubtedly the leading medical men in the infant colony, where sooner or later (and usually sooner) practically every white man passed through their hands as a patient. All the early writers—for instance, Sir Harry Johnston in his standard work on the Uganda Protectorate (1900) and Major H. H. Austin in his account of the Mutiny (1903), to quote only two—bore testimony to the selfless labours of these two medical missionaries, whose work contributed nobly to the prestige of European civilization in those troublous times. John Howard Cook, the younger brother, studied medicine at University College Hospital, whence he qualified as M.R.C.S., L.R.C.P. in 1895: in the same year he took a gold medal and scholarship at the London M.B., and in 1897 proceeded to the M.S. and the F.R.C.S.Eng. After working some years at Mengo he obtained the Diploma in Tropical Medicine of Cambridge University. Besides general surgery, he took an especial interest in ophthalmology, and he also played a prominent part in the investigation of and fight against African sleeping sickness. He was honorary consulting ophthalmic surgeon to the Church Missionary Society, having also been their physician and secretary to the medical committee. He was Harford lecturer in ophthalmology, and consultant for tropical diseases to the Ministry of Pensions. He left Uganda in 1920, and after 20 years more work for the C.M.S. in London he was then for 5 years medical superintendent of the London Medical Mission, Covent Garden. In 1899 he married Susannah Ethel Maddox. Their second son, Dr. Norman Cook, died in 1933 in West Africa, where he was a C.M.S. medical missionary, and the third son, Major A. Bickersteth Cook, M.B.E., M.B., B.S., is in the East. Mrs. Cook survives her husband; Sir Albert Cook has recently published a volume of *Uganda Memories*.

The death, on Sept. 18, of Dr. LEO POLLAK is a great loss, not only to White Lodge Hospital, Newmarket, but to the world of medicine. Before he came to this country, in consequence of the Nazi invasion of Austria, Dr. Pollak was Extraordinary Professor of Medicine in Vienna. About his work in this capacity he was very reticent, but among his personal friends he numbered some whose names are known the world over, and it is probable that in more normal circumstances the name of Leo Pollak would have become equally well known. At the beginning of the war he was interned as an enemy alien, but was released from internment and became a member of the medical staff of White Lodge Hospital. There his circle of contacts was limited, but those who were privileged to know him recognized in him a great man. His professional knowledge was vast: he could give a learned answer to any question. Nevertheless, his erudition was associated with common sense and experience, so that his advice was very highly valued by all his colleagues. As a man, he was modest and extremely likeable. He earned the real affection of all with whom he came into contact, to such a degree that nobody can recall a single disparaging remark made about him. He had a lively sense of humour, which remained with him until his death, although he was fully aware of the hopelessness of his condition. All who were associated with him mourn the passing of a beloved friend and of a great character. It is one of the minor tragedies of the war that such a man should have ended his days in comparative obscurity, far from his native land, even though among friends.—J. S. H.

The Services

The Efficiency Decoration of the Territorial Army has been conferred upon the following officers: Col. C. H. Carlton, M.C., Lieut.-Col. (Hon. Col.) R. M. Savege, O.B.E., M.C., Majors (Hon. Lieut.-Cols.) R. B. Brew, W. S. Harvey, and F. R. Langmaid, Majors (Temp. Lieut.-Cols.) E. G. Gerstenberg, and B. M. Nicol, Majors T. A. Danby, J. D. A. Gray, and H. R. R. Mavor, Capt. (Hon. Major) L. P. Clarke, and Capt. (Temp. Major) T. H. Coan, M.M., R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Killed.—Temp. Lieut.-Col. Andrew Robert Fausset Clarke, M.C., Temp. Major Clifford Longden Lewis, and War Subs. Capt. Roylance Lynton Parkinson, R.A.M.C.

Previously reported missing, now reported killed.—War Subs. Capt. John Varley Schofield, R.A.M.C.

Died.—Lieut.-Col. Edward Alexander Strachan, Major Murdo Buchanan, Temp. Major Ewen Arthur Elson Palmer, War Subs. Major Hamish Barrowman, and War Subs. Capts. James Lavington Ashley, Archibald David Morrison King, Wilfred Kendrick Lloyd, Margaret Mary Loughnan, and Alan Ross Sheriff, R.A.M.C.

Died as Prisoner of War.—War Subs. Capt. William Service Aird, R.A.M.C.

Previously reported Prisoner of War, now reported Died as Prisoner of War.—Lieut.-Col. Cyril Armstrong, M.B.E., and War Subs. Capts. Alfred Kenneth Eastwood, Basil Frederick Benbow Gulliver, M.C., and Arthur Wemyss Gordon Sutherland, R.A.M.C.

Wounded.—Temp. Lieut.-Col. A. G. Fergusson, Major Hilda Roberts, and War Subs. Capt. J. K. A. Burn, R.A.M.C.

Medical News

Dr. D. Evan Bedford will deliver the Bradshaw Lecture on Thursday, Nov. 7, at 5 p.m., at the Royal College of Physicians, on "Hypertensive Heart Disease."

The inaugural address at the opening of the 210th session of the Royal Medical Society of Edinburgh will be given by Sir Henry Wade at 7, Melbourne Place, on Friday, Oct. 11, at 8 p.m. He will speak on "The Life of an Edinburgh Medical Student 300 Years Ago." The provisional programme for the session includes addresses by Mr. P. H. Mitchiner on Oct. 25, "The Aftermath of War in Medicine"; by Dr. J. R. Rees, on Nov. 8, "Social Psychiatry and Medical Progress"; by Dr. John McMichael, Nov 22, "Heart Failure"; Col. L. W. Harrison, Dec. 6, "Half a Lifetime in V.D.: from Chaos to Order"; Prof. Charles Cameron, Jan. 10, "Tuberculosis as a Problem in Diagnosis"; Mr. A. H. McIndoe, Jan. 24, "The Surgery of Congenital Defects"; and Dr. R. W. Durand, Feb. 14, "The Doctor, the Patient, and the Law."

The annual general meeting of the Heberden Society has been arranged for Friday and Saturday, Oct. 25 and 26, at 11, Chandos Street, Cavendish Square, W. After the business meeting at 4.30 p.m. on Friday a discussion on future trends of research in rheumatoid arthritis will be opened by Dr. G. M. Findlay with a paper on arthritis in rats and mice due to pleuropneumonia-like organisms, followed by Dr. D. H. Collins, on erysipelothrix polyarthritis of swine. The annual dinner will be held at the Euston Hotel that evening at 7.45. On Saturday at 11 a.m. Prof. J. Axel Höjer, chief medical officer, Royal Swedish Ministry of Health, will give an address on the organization and work of a rheumatic service in Sweden.

Dr. Ludo van Bogaert of Antwerp will give a lecture at the National Hospital, Queen Square, Medical School, on Wednesday, Oct. 9, at 4 p.m., on "Progressive Atrophies of the Globus Pallidus, their Clinical and Pathological Characters." All those interested are invited.

The British Institute of Philosophy has arranged a course of lectures on "Contemporary World-Outlooks" beginning on Friday, Oct. 11, at 5.15 p.m. Particulars may be had from the Director of Studies, University Hall, 14, Gordon Square, London, W.C.1.

The British Red Cross Society, working in close co-operation with the Ministry of Health, held a blood transfusion conference at Gas Industry House (opposite St. George's Hospital) on Sept. 24.

According to the *Manchester Guardian* of Oct. 1 almost the entire medical staff of two of Stockholm's hospitals decided to strike at midnight to-night against a Government decision forbidding them to charge for health certificates. The two hospitals have a daily average of nearly 3,000 in-patients and out-patients. The doctors say they will treat patients already in the hospital, but they will accept no new patients, nor will they treat out-patients.

At a meeting of the Lausanne Medical Graduates' Association held in London on Sept. 25 Dr. Cyril T. Gasking, of Harrogate, was elected president for 1946–8, and Lieut.-Col. Colin McIver, of Bexhill, president-elect for 1948–50. The following officers were re-elected: vice-president, Dr. Robert Fleming, of Harrow; hon. secretary and treasurer, Dr. Charles A. H. Franklyn, Wickham Hill House, Hassocks, Sussex, to whom all inquiries should be sent.

The permanent headquarters and address of the United Nations Educational, Scientific, and Cultural Organization are now UNESCO House, 19, Avenue Kléber, Paris, 16e, France.

Before the war a blind one-armed Englishman was a teacher of English in Holland. During the Arnhem fighting his home and all his effects were destroyed, and for seven weeks he wandered homeless about the countryside. But misfortunes failed to break his spirit, and his cheerfulness impressed all who met him. He has now started afresh, and the British Wireless for the Blind Fund has sent him a new wireless set to replace the one he lost in the war.

Mr. A. E. Porritt, C.B.E., is by invitation shortly taking over the duties of Professor of Surgery at Harvard University for a few weeks.

Mr. W. A. Macleod, of 17, Gayton Road, Harrow-on-the-Hill, who died on May 7 last, with net personalty of £19,720 9s. 8d. bequeathed six-twentieths of the residue of the property to the Lister Institute of Preventive Medicine, London, or to the University of Edinburgh if the former is no longer functioning or no longer carrying out research, upon trust to found a scholarship or scholarships or other form of award in memory of his daughter Morna, which shall be known as "The Morna Macleod" scholarship or award, and be "tenable by students of Scottish birth or descent on at least one side of their family."

Dr. Ernest Chittenden Bridges, of 67, Harcourt Terrace, London, S.W.10, died on April 17 last, leaving £59,113 14s. 4d. gross, with net personalty £58,982 6s. He left £500, wearing apparel, and suitcases to the Royal Medical Benevolent Fund; £25 to the St. Alban's Medical Club, of which he had been president; and £25 to the Medical Society of London.

EPIDEMIOLOGICAL NOTES

Paratyphoid

At Coatbridge, in Lanarkshire, there have been a further 11 cases of paratyphoid B. In the preceding fortnight 113 cases were reported in this town.

Halifax C.B. has had another 7 cases of paratyphoid in the week under review, as against 14 cases in the preceding week.

Discussion of Table

In *England and Wales* infectious diseases were less prevalent. There were fewer cases of measles 108, whooping-cough 80, diphtheria 29, and dysentery 18. The only exception to the general trend was a rise of 123 in the notifications of scarlet fever.

A slight rise in the incidence of scarlet fever was general throughout the country; the largest local increase was London 24. Changes in the returns for measles were a decrease in Lancashire 51 and a rise in Yorkshire West Riding 33. Very little alteration was recorded in the incidence of whooping-cough, and the only variations of note were decreases in Warwickshire 44 and Lancashire 44. The largest of the local fluctuations in diphtheria was a decrease of 11 in Durham. One-quarter of the total of 68 cases of dysentery were notified in London.

In *Scotland* rises were reported in the incidence of scarlet fever 13 and diphtheria 5, and a fall of 20 in the notifications of whooping-cough. The largest returns of dysentery were Glasgow 11, Edinburgh 9, and Aberdeen 9.

In *Eire* an increase of 4 was recorded in the notifications of diphtheria, but Dublin C.B. had a rise of 12. Diarrhoea and enteritis was less prevalent; there were 15 fewer cases than in the preceding week. Of the 55 cases of diarrhoea and enteritis 46 were notified in Dublin C.B.

In *Northern Ireland* little change occurred in the trends of infectious diseases. The chief feature of the returns was an outbreak of diphtheria involving 6 persons in Londonderry R.D.

Week Ending September 21

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 853, whooping-cough 1,610, diphtheria 240, measles 1,208, acute pneumonia 312, cerebrospinal fever 36, dysentery 66, acute poliomyelitis 28, paratyphoid 17, typhoid 13.

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INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Sept. 14.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1946					1945 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	28	4	19	1	—	39	6	20	3	1
Deaths		—	2				—	1		
Diphtheria	255	22	82	35	21	495	28	141	86	15
Deaths	5	—	2	2	—	7	—	2	—	—
Dysentery	68	17	42	1	—	292	57	102	6	1
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	—	—	—	3	1	1	1	—
Deaths		—					—			
Erysipelas		1	38	6	5		—	58	11	—
Deaths										
Infective enteritis or diarrhoea under 2 years				55					147	
Deaths	54	3	10	11	5	77	4	16	19	5
Measles*	1,213	78	75	19	6	551	46	66	17	6
Deaths	3	1	—	1	—	—	—	—	—	—
Ophthalmia neonatorum	75	7	10	—	—	80	5	8	—	—
Deaths										
Paratyphoid fever	33	—	14 (B)	—	—	15	1	3 (B)	2 (B)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	284	21	3	2	1	326	14	6	1	1
Deaths (from influenza)†	2	—	—	—	—	11	2	1	—	—
Pneumonia, primary		22	136	15			17	158	5	7
Deaths				3	5				3	
Polio-encephalitis, acute	1	—				2	—			
Deaths		—					—			
Poliomyelitis, acute	22	3	—	3	2	31	2	1	9	1
Deaths		—					—			
Puerperal fever		2	10		—		2	16		—
Deaths										
Puerperal pyrexia‡	100	12	6	1	—	140	4	13	1	2
Deaths		1					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	791	68	157	34	25	1,381	92	293	22	33
Deaths	—	—	—	—	—	1	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	17	2	6	3	2	17	—	1	12	1
Deaths	1	—	—	—	—	1	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,744	142	119	30	30	1,159	76	57	21	7
Deaths	10	1	2	—	1	5	1	1	1	1
Deaths (0–1 year)	359	43	53	27	12	337	35	43	42	12
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	3,793	603	561	151	99	4,021	595	540	157	119
Annual death rate (per 1,000 persons living)			12·3	9·7				12·3	10·1	
Live births	8,953	1339	1,028	437	276	6,494	903	779	456	230
Annual rate per 1,000 persons living			20·7	28·0				15·6	29·4	
Stillbirths	243	37	36			203	21	28		
Rate per 1,000 total births (including stillborn)			34					35		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

ANY QUESTIONS?

Prostigmin Test for Pregnancy

Q.—*What is the rationale of the prostigmin test for pregnancy? Is it considered to be of any practical value, particularly in the early days of pregnancy?*

A.—Prostigmin is a synthetic parasympathetic stimulant with a similar action to that of physostigmine or eserine. It acts in the body by inhibiting acetylcholine esterase and thus facilitating the action of acetylcholine on the tissues. Soskin, Wachtel, and Hechter (*J. Amer. med. Ass.*, 1940, **114**, 2,090) first introduced the use of prostigmin for the treatment of delayed menstruation and claimed that a menstrual flow was induced in most cases, provided the patient was not pregnant. Haig Carapetyan (*J. Amer. med. Ass.*, 1943, **122**, 81) has suggested as explanation for this effect of prostigmin in delayed menstruation that it increased the amount of acetylcholine in the uterine tissues and thus promoted the hyperaemia which normally precedes menstruation and is believed to be brought about by oestrogenic hormone.

L. B. Winkelstein (*Amer. J. Obstet. Gynec.*, 1942, **44**, 231) found that injection of prostigmin successfully differentiated early pregnancy from temporary amenorrhoea by inducing menstruation in eighty-seven out of ninety cases. The number of daily injections of one to two ml. of a 1 : 2,000 solution of prostigmin methyl sulphate required was, on average, 2.4. He found, however, that some patients, who were subsequently found to be pregnant, bled following the injections and that other patients who were not pregnant did not respond. There is therefore a definite danger of causing early abortion. Winkelstein considers that as a *diagnostic* procedure administration of prostigmin is of little value, though he suggests it may be of use in the treatment of temporary amenorrhoea in cases where pregnancy has been definitely excluded and there is no obvious endocrine disorder.

Simple Haemoglobin Estimation

Q.—*Would you please describe a method of haemoglobin estimation which could be used in a country district without any laboratory facilities.*

A.—A number of methods are available for the simple estimation of haemoglobin in a country district, each one having its advantages and disadvantages. Taking all factors into consideration Sahli's method is still probably the best available. The principle of this method is the conversion of the haemoglobin in a known quantity of blood to acid haematin by adding the blood to hydrochloric acid and comparing the mixture with a standard colour tube.

Materials.—(1) Sahli's haemometer, consisting of a comparator frame, a standard colour tube (preferably of solid glass), and a graduated tube of the same bore, obtainable from Hawksley and Son, New Cavendish Street, London, W.1. (2) Decinormal hydrochloric acid (approx. 1% conc. HCl), obtainable from any chemist.

Method.—The HCl is placed in the graduated tube up to the mark 10. The pipette is filled to the 20 c.mm. mark with blood; the contents are gently blown into the acid and the pipette washed out by alternately sucking up and expelling the acid. The complete conversion of the haemoglobin to the brown acid haematin takes approximately thirty minutes, but as the great bulk of the change is complete in ten minutes this latter time can be taken as accurate enough for clinical purposes in general practice. Distilled water is now added drop by drop to the graduated tube, and the contents mixed between each addition by placing the thumb over the end of the tube and inverting. When the colour of the contents of the graduated tube exactly matches the standard tube the figure on the graduated tube gives the haemoglobin content of the blood.

Meaning of Allergy

Q.—*Will you kindly tell me what is the origin or derivation of allergy and allergic?*

A.—The word allergy is derived from the Greek words *allos* (different or changed) and *ergon* (energy or activity), and thus means a changed or altered activity. It was coined by von Pirquet, a Viennese physician, in 1906, who implied an antigen–antibody reaction as its basis. It did not come into clinical use until after its adoption and modification in 1912 by Doerr, who worked with von Pirquet. Doerr included in his definition all forms of altered reactive capacity irrespective of the presence or absence of an antigen–antibody reaction, that is all abnormal and specific reactions of the body to foreign, ordinarily innocuous, substances. American workers have contributed very largely to our knowledge of the part played by allergic reactions in clinical medicine, and their publications are responsible for its present fairly general acceptance as a term denoting all forms of hypersensitivity occurring naturally, particularly in man.

The clinical manifestation varies according to its location and may result in asthma, hay fever, urticaria, eczema, migraine, gastro-intestinal disturbances, etc.

Treatment of Tongue-tie

Q.—*Please describe the operation for "tongue-tie" in children.*

A.—Before operating for tongue-tie one must make quite sure that the operation is necessary. Gone are the days (we hope) when mother, midwife, or even doctor too easily diagnosed such a condition and too readily snipped the short fraenum of the tongue. It is still a common mistaken diagnosis to attribute defective speech or difficulty in suckling to a tongue-tie. Nevertheless there are occasional cases in which the fraenum linguae binds down the tip of the tongue so that it cannot be protruded beyond the teeth or lips and thus may interfere with proper suckling. Only in these cases is it necessary or wise to divide the fraenum.

The operation of division of the contracted fraenum should be done by snipping it with a pair of blunt-pointed scissors directed downwards and towards the symphysis menti; the fraenum is made evident by elevating the tip of the tongue by two fingers of the left hand while the scissors are held in the right hand. If a common director is at hand one may utilize the slit in its splayed end to steady the fraenum while it is being divided. The cut should not be more than sufficient to divide the double fold of mucosa, but the tip of the tongue may further be freed by pressure with the forefinger. Indeed, Fitzwilliams states: "all that is necessary if the fraenum is tight is to make pressure on the fraenum immediately behind the jaw and it will be felt to give from the gum." Whichever method be employed one must ligate any bleeding point, and some prefer to put a transverse catgut suture to draw the raw surfaces together. In infants no anaesthetic is necessary; in older children one may infiltrate with a dilute solution of novocain.

Marriage and Syphilis

Q.—*A young woman of 23 wishes to get married. In 1943 she was found to have syphilis (acquired), and was treated by a single intensive course of N.A.B. and bismuth. Since then she has had quarterly blood examinations—all negative. What is one to advise her about marriage and pregnancy? Will antiluetic treatment be required during her future pregnancies?*

A.—There is no reason why this girl should not marry, but it is usual to advise deferment of marriage till five years have elapsed since the date of infection. The amount of treatment seems to have been small, but seeing that blood tests have

been consistently negative for approximately three years the chances of her being "cured" seem to be good. If she marries soon she should avoid "unprotected" sexual intercourse till 1948. If and when she does become pregnant she should receive antisyphilitic treatment throughout *each* pregnancy—in any case before the fifth month—and carry it on right up to term. The risk of conveying infection to the husband is negligible after five years, while that of producing a congenitally syphilitic child lasts indefinitely; but adequate treatment of the mother during pregnancy should ensure the birth of a healthy child in more than 90% of cases.

Workmen's Compensation Act

Q.—*The principal, Dr. A., employs two assistants, Dr. X. and Dr. Y. Doctors X. and Y., while driving a motor-car together to visit a patient, are involved in a road accident. Dr. X. is killed instantly. Dr. Y. loses the sight of one eye, but is able to resume his duties under physical handicap after a period of three months. What compensation claims are representatives of both parties entitled to lodge against Dr. A. under the Workmen's Compensation Act?*

A.—To qualify for workman's compensation the applicant must be engaged in a contract of service, and his remuneration must not exceed £420. The minimum compensation awarded in respect of a death is £300; if the man was married with children it may rise to £700 according to the degree of dependency. Compensation for injury depends on degree of impairment of earning capacity, and if the parties cannot agree the issue is tried by a county court judge (or sheriff in Scotland) sitting as an arbitrator. The maximum award for a single man is 40s. a week; this also is increased if the applicant has dependants.

Pelvic Cellulitis

Q.—*A patient had a pelvic cellulitis after child-birth fourteen years ago. This was treated conservatively. Since then she has had periodical "flare-ups" of the infection. What is the value of penicillin in such cases, and what dosage is suggested?*

A.—On the data given it would certainly seem reasonable to try penicillin in this case, while giving a guarded prognosis. It has been found that chronic cases of gonorrhoea and of other types of pelvic infection may clear up on penicillin therapy when other means have failed. The reason why penicillin may fail in such a case as that described is that the infecting organism—if indeed any can be demonstrated after so long a lapse of time—is likely to be a coliform organism, and these are generally insensitive to penicillin. The local physical signs should be carefully assessed before commencing treatment, and any cervicitis should be treated first with the electric cautery. Large doses are recommended for cases of this type—two or three million units—and this would be best given by intramuscular injection of the saline solution, 30,000–40,000 units every three hours, day and night, for seven or eight days. A course of pelvic diathermy often brings relief in cases of chronic pelvic infection and might be tried if other treatment is unsuccessful. If this fails and the attacks persist, the patient would almost certainly benefit by a total hysterectomy with removal of both tubes, but conserving some ovarian tissue if the patient has not reached menopausal age.

Secondary and Latent Syphilis

Q.—*(a) Is the blood Wassermann reaction invariably positive in secondary syphilis? (b) Is a "provocative" dose of N.A.B. justified in a case clinically resembling secondary syphilis, but with a negative Wassermann reaction? (c) What is latent syphilis? (d) What is the minimum amount of penicillin that can convert a positive Wassermann to a negative one?*

A.—(*a*) The blood Wassermann reaction is positive in well over 99% of cases of untreated secondary syphilis; it is so consistently positive that a negative report demands a repeated test and raises the suspicion of a technical error.

(*b*) "Provocative" injections of neoarsphenamine are nowadays considered by most authorities to be valueless. In a case of florid secondary syphilis which has received no treatment it should be possible to demonstrate *Spirochaeta pallida* in some of the surface lesions or, failing this, by gland puncture. Blood tests should be repeated and include both complement fixation and flocculation tests.

(*c*) Latent syphilis is, essentially, syphilis without physical signs: Stokes defines it as "seropositive, otherwise asymptomatic, syphilis," but adds that latency may "best be described not as an asymptomatic lull preparatory to destructive late manifestations but as a period of high resistance and low visibility, with an undercurrent of chronic mild inflammatory change in vital structures and an upper stratum of alternating relapse and recovery."

(*d*) It is not known what is the *minimum* amount of penicillin which will convert a positive Wassermann to negative: as little as 60,000 Oxford units have been reported as accomplishing this. Much, however, depends on three factors: (1) the strength of the serum reaction; (2) the age of the disease; and (3) the type of penicillin employed. In general, the stronger the serum reaction and the longer the disease has existed the greater the amount of penicillin required; quite small amounts will often reverse a reaction in primary syphilis, whereas amounts up to ten million units or more frequently fail in late or latent syphilis. Many of the most recently manufactured samples of penicillin seem to be less spirochaeticidal and less effective in reversing serum reactions than those produced before the middle of 1944.

INCOME TAX

Car Transactions

F. F.'s pre-war car was "blitzed" in 1943. He bought a new car in November, 1945, for £397, and as from January 1, 1946, took an appointment (residing on the premises) which allowed him to do a certain amount of private work. What deduction can he claim in respect of the car?

*** No allowance can be claimed against the salary from the appointment. As regards the private work a proportion of the car expenses and depreciation, etc., can be claimed, according to the ratio of that use to the total use of the car—e.g., on a mileage basis. The *full* depreciation allowance for the year to April 5, 1947, would be:

	£
Capital allowance, 20% of £400	80
Wear and tear allowance, 25% of £400	100
Total	£180

A. H. has had several car transactions over the past four years: those referred to below are relevant to income tax deductions for 1946–7 and the future. Car A was bought in 1940 for £40, and sold on Aug. 17, 1946, for £100. On the same day car C was bought for £650.

*** *1946–7.*—Depreciation at 25% on the value of Car A as written down by the 1945-6 income tax depreciation will be due. *1947–8.*—(*a*) An initial allowance on car C at 20%, and (*b*) depreciation on the car at 25% will be due.

New Appointment as Assistant

J. F. is married with two children and is taking an assistantship as from Oct. 1, 1946, at a salary of £700 plus £200 car allowance. (It is understood that he was previously doing postgraduate work and it is assumed that he had no taxable earnings in the six months to Oct. 1.) He asks what deductions will be made under P.A.Y.E. and what car expenses he can claim.

*** On the above basis J. F.'s taxable earnings for the year to April 5, 1947, will be £350. Against that he is entitled to the following allowances:

	£
Personal allowance	180
Child allowance	100
Earned income relief (1/8)	47
Total	£327

The total tax payable for the year will therefore be £23 at 6s., i.e., £6 18s. He is advised to put himself in communication with the local Tax Office so that his principal can be enabled to make the correct deductions. The car allowance of £200 is, we consider, unlikely to be questioned by the Tax Office provided that J. F. makes no claim to deductions for depreciation and running costs. Whether it would pay him to accept a smaller allowance with consequent increase in salary and claim depreciation, etc., depends on the cost of the car he buys and the extent to which it is used for non-professional purposes. No deduction is apparently due for the rent of £40 paid for his residence.

LETTERS, NOTES, ETC.

The Development of a "Cottage Hospital"

Dr. J. WALLACE KEMP (Kingston) writes: Twenty-five years ago the Kingston-upon-Thames Victoria Hospital was a cottage hospital, conducted and functioning as such. A constructive policy was instituted by the then members of the medical staff. The wards were rebuilt, a children's ward added and a new operating theatre built. This is now a modern, well-equipped department in daily use for major and minor operations. The *x*-ray department was extended, a new apparatus installed, and a radiologist appointed. Cases are referred to the department from outlying areas, and the attention given is much appreciated. As the scope of the hospital expanded additions were made to the honorary consulting staff, and weekly attendances are now made by a consulting surgeon, an ophthalmic surgeon, a gynaecologist, an ear, nose and throat surgeon, and a consulting physician to see out-patients referred by members of the staff, or to operate if required. All these consultants are of high standing in the medical and surgical profession. An honorary anaesthetist was also appointed. A pathological laboratory was established some years ago. A block of private wards has been added to the original building. There has been a progressive and consistent transition from the original cottage hospital status to its present high standard of efficiency and utility. Staffed, as it is, by consultants of high standing and general practitioners of wide experience, the reputation of the hospital is a testimonial to the committee who have conducted its administration and to the members, consultant and general, who have applied their knowledge and skill in raising its status to what may be fairly described as a "practitioner general hospital." There appears to be a need for hospitals of this type and the Kingston Victoria might well be adopted as a model for such institutions. The preservation of "follow up" contact between the patient and doctor is of inestimable value in cases requiring operation, always a crisis in the life of the individual and of their families. With their own experience and the advice of consultants the limitations of the hospital are fully recognized, and in certain instances arrangements are made for more expert treatment elsewhere, but this is exceptional.

Pipe versus Cigarette

Dr. S. A. W. RUSHBROOKE (Shebbear, Devon) writes: One other aspect of the problem. Doubtless in every case dilute nicotine vapour is absorbed into the blood stream producing transient and varying effects in every type of individual. Much more nicotine is absorbed in cigar smoking and its effects are usually readily noticeable to the casual smoker of cigars, and, of course, the stronger the cigar the quicker the effects. The smoker of both pipe and cigarette usually prefers the former, and providing the pipe is clean and dry—and this is important—tobacco smoked this way is more enjoyable, and indeed is to be preferred. The cigarette usually contains a finer tobacco, and invariably smaller particles, even dust, capable of being inhaled, thus adding to the irritation and inducing the cough. No matter how good the cigarettes are the main reason why the continued smoking of them results in the familiar smoker's cough and throat is because trouble lies far more in the paper than the tobacco. Even if the best rice paper is used the acrid vapours produced from the continuous smouldering carbohydrate in the paper itself are probably the real underlying cause of the smoker's cough, acting as an irritant in the lungs. Gastric disturbances are further set up by the same cause by absorption in the stomach glands and nerve endings of the mucosa inhibiting the natural flow of gastric juices, thus contributing to at least one common form of dyspepsia. Hence the advice not to smoke immediately before a meal and for half an hour after its consumption is physiologically sound and has proved helpful to many.

Two Kinds of Cold?

Prof. W. BURRIDGE writes from the Department of Physiology, Rangoon: In Lucknow my house was just over a furlong from my laboratory. The latter was on the higher ground, and to reach it I had to traverse a flight of steps arranged in one group of four, three of sixteen, and one of fifteen. They were easy steps since the tread was two bricks broad and one brick on its side high. In the flush of the early morning I was accustomed to take these steps two at a time, and could do so comfortably. But there would come some mornings when after completing the hundred paces or so from the top of the steps to the laboratory entrance I arrived out of breath. In due course I found that this shortness of breath heralded a cold which would arrive three days later. This cold I could not cure. Treatment with aspirin, for example, would bring me nearer to drowning in my own secretions than any form of relief. It started in the nasal cavity and then "went down" to become a sort of "horrid 'acker." It could be well described as a bronchitis that did not incapacitate. The act of coughing, however, was painful enough to induce me to resort to opium. The total duration would be about one month. Recently I found it to be amenable to sulphonamides. But also during the cold weather there would be other occasions when, except for that preliminary bout of shortness of breath, I found signs that a "cold" was coming. My standby for this was the unguentum A B C of Guy's Hospital plus a throat spray. Such colds could be nipped in the bud, as it were. I have therefore to plead for the recognition of two types of common cold, the one that can be aborted and the one that cannot. The colds that can be cured are of the one type, the colds that must be endured are of the other. Recognition of their existence, however, should make considerable difference to conclusions relative to the prevention of colds. Doubtless there are many other doctors who can make daily test of their physical fitness by climbing quickly enough some flight of stairs which they regularly meet on their daily rounds, and who may be able to report at the end of the "cold" season on colds that can be aborted and colds that cannot.

Village Longevity

Dr. G. R. A. ARMSTRONG (Stourport-on-Severn) writes: I have been much interested in the longevity records of Dr. C. E. S. Harris (May 4, p. 709) and of my fairly near neighbour Dr. A. C. L'Estrange (June 1, p. 864). Until a week ago I had seven patients whose ages totalled 638 years. One aged 90 comes to my surgery weekly very dapper, upright, sprightly, and mentally alert; another aged 91 was in the Birmingham City Police for twenty-six years and has been forty-two years on pension practising vegetable and fruit growing locally, but this year "the rheumatics went to his back" so he has "retired" to Birmingham again. The year 1859 must have been a vintage year as I have eleven patients (two of them attend my surgery) each aged 87 years. There must be some truth in a local saying: "They'm don't die hereabouts, we'm takes 'em to Bewdley and shoots 'em."

The Tobacco Habit

Dr. G. DEERY (Plymouth) writes: Under "Any Questions?" (Aug. 24, p. 284) it is suggested that pipe sucking is resorted to as a substitute for the mother's breast. Is it a reasonable and analogous deduction that when we draw up our knees beneath the blankets on a cold night we are merely reverting to the position *in utero* where presumably we were cosy and warm?

Dr. REGINALD H. LITTLE (Ringwood) writes: The answer given to a question concerning the tobacco habit which was published in the *Journal* (Aug. 24, p. 284) reveals a state of mind which one would hardly credit even in a psychologist. For absolute and utter rubbish and jargon it would take a lot of beating. To carry this nonsense further we shall soon be told by the experts that human milk can be had in brands like Players or Gold Flake. That smoking should be regarded as a "solace for loss of love" must shake some of us when cigarettes and tobacco are in short supply. Surely the answer is very simple, and I venture to suggest that smokers carry on their vice because they like it and for no deeply veiled oral erotic tendency.

Painless Labour

Dr. L. G. HIGGINS (Woking) writes: Will you allow me to add a further note to the answer given to your correspondent who seeks confirmation of the benefit of Dr. Grantly Dick Read's procedures for the conduct of pregnancy and labour (Sept. 14, p. 407)? I have known Dr. Dick Read for many years, and can claim to be familiar with the principles of his teaching. Painless labour may possibly occur as a great rarity, but to claim that any method of delivery can "ensure painless childbirth" sounds too much like witchcraft. It is more correct to say, as I can truly affirm, that a girl, properly prepared and with a favourable presentation, should achieve a normal delivery with some effort of concentration, some discomfort, and often some pain at the end of the first stage of labour. But the pain or discomfort will be cheerfully borne and the patient should remain calm and composed, without anxiety or distress. The labour loses altogether the character of an ordeal of physical endurance, and the whole experience becomes interesting and enjoyable. In a successful case, the simplicity of the actual delivery is striking, bringing to the mother feelings of satisfying achievement and gratitude which are moving to witness.

A Rowlandson Print

Dr. HUBERT H. DU BOULAY (Chandlers Ford, Hants) writes: Can anyone give the names of a group of doctors, probably surgeons, one of whom is amputating a leg with an ordinary carpenter's hand-saw, figured by T. Rowlandson in a coloured caricature print dated 1785? The British Museum, the Wellcome Historical Museum, and the Royal College of Surgeons are unable to help.

Correction

In a letter on the early treatment of ocular defects by Mr. Sydney Tibbles (Sept. 28. p. 475) a reference to "the 1914–18 war" should have read "1939–45 war."

Association Notices

AREAS OF SWINDON AND TROWBRIDGE DIVISIONS

Notice is hereby given by the Council of the British Medical Association to all concerned that it is proposed to transfer the municipal borough of Malmesbury from the area of the Swindon Division to that of the Trowbridge Division.

Any member affected by this proposal and objecting thereto is requested to write to the Secretary of the Association by Oct. 19, 1946, stating the objection and the ground therefor.

Charles Hill,
Secretary.

Sept. 21, 1946.

Ophthalmic Group Committee: Correction

A correction is necessary in the list of members of Committees published on Sept. 7 (p. 77). We have been informed by the Faculty of Ophthalmologists that the names of the six members of the Ophthalmic Group Committee appointed by the Council of the Faculty of Ophthalmologists should be:

Mr. J. D. M. Cardell, London.
Mr. J. H. Doggart, London.
Mr. R. Affleck Greeves, London.
Mr. E. F. King, London.
Mr. F. W. Law, London.
Mr. J. N. Tennent, Glasgow.

Hospitals Committee: Correction

Add: "One member to be appointed by the Association of Municipal Specialists."

Diary of Central Meetings

October

17. Thurs. Publishing Subcommittee, 11 a.m.
Journal Committee, 2 p.m.

Branch and Division Meetings to be Held

Coventry Division.—At Coventry and Warwickshire Hospital, Tuesday, Oct. 8, 8.30 p.m. Discussion on the Relationship between the Industrial Medical Officer and the General Practitioner, with reference to the case of open tuberculosis, to be opened by Dr. A. D. Macdonald.

East Kent Division.—At St. George's Hotel, Cliftonville, Thursday, Oct. 10, 8.30 p.m. Address by Dr. I. B. Morris.

East Yorkshire Branch.—At "Quern House," Park Street, Hull, Tuesday, Oct. 8, 8.30 p.m. Lecture by Prof. Alan Moncrieff: Child Health.

Richmond Division.—At Richmond Royal Hospital, Friday, Oct. 11, 9 p.m. Dr. Gerald Slot, "Recent Advances in Medical Therapeutics."

Meetings of Branches and Divisions

Bath Division

A meeting of the Bath Division was held on Sept. 25, with Dr. G. D. Steven in the chair, when the following resolution was passed unanimously:

That this meeting strongly recommends to the Council that, in implementing the resolution of the Representative Body (carried on July 24, 1946) to take a referendum of the whole profession on the simple issue of whether negotiations with the Minister should take place or not, the referendum should take the following form:

Three separate forms of different colours should be sent to each member of the profession. One form would be headed "Public Services Section," the second "Consultant and/or Specialist Service," and the third "General Practitioner Service." Each form should ask the simple question—"Do you agree to negotiations on regulations on this Section being carried out with the Minister?" Every member of the profession should be asked to return only the form which refers to the Section to which he or she predominantly belongs.

Malaya Branch

A clinical meeting of the Southern Division, Malaya Branch, was held on July 31, 1946. The subject under discussion was penicillin, and Dr. E. C. Davies, Lieut.-Col. French, and Lieut.-Col Harris spoke. The attendance was 84.

All general practitioners in Singapore will be able to obtain a textile issue from the Controller of Supplies provided they are sponsored by the Association. The hon. secretary of the Southern Division has undertaken to compile a list of those anxious to secure such textiles, and when complete will arrange for supply to be made.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Obstetrics and gynaecology, for general practitioners, *daily*, Oct. 14 to 19, at Queen Charlotte's Maternity Hospital, and Chelsea Hospital for Women. (2) Week-end course in rheumatism, all day Saturday and Sunday, Oct. 26 and 27, at St. Stephen's Hospital, Fulham Road, S.W.

The University of Leeds Postgraduate Subcommittee announces that it is proposed to hold a two-weeks general refresher course for Class II demobilized medical officers and insurance practitioners, beginning on Monday, Nov. 25. Applications and inquiries should be addressed to the Senior Administrative Officer, School of Medicine, Leeds.

WEEKLY POSTGRADUATE DIARY

Blackpool: Victoria Hospital.—*Thurs.*, 8 p.m., Dr. Cross: Radiotherapy in Gynaecology.

Glasgow University: Department of Ophthalmology.—*Wed.*, 8 p.m., Dr. Michaelson: Proptosis and Exophthalmos.

London School of Dermatology, 5, Lisle Street, Leicester Square, W.C.—*Tues.*, 5 p.m. Dr. A. C. Roxburgh, Cutaneous Syphilis. *Thurs.*, 5 p.m. Dr. H. MacCormac, Industrial Dermatitis.

DIARY OF SOCIETIES AND LECTURES

Royal Society of Medicine

Section of Experimental Medicine and Therapeutics.—Tues., 5.30 p.m. Presidential Address by Prof. H. P. Himsworth: Protein Metabolism in Relation to Disease.

Section of Psychiatry.—Tues., 5.30 p.m. Presidential Address by Prof. Aubrey Lewis: The Education of Psychiatrists.

Section of Physical Medicine.—Wed., 4.30 p.m. Presidential Address by Dr. F. S. Cooksey: The Planning and Organization of Physical Medicine Departments.

Section of Ophthalmology.—Thurs., 5 p.m. (Cases at 4.30 p.m.) Presidential Address by Mr. A. H. Levy: The Aesthetics of Vision. Paper by Mr. John Foster: An Ophthalmic Tour in France and Switzerland.

Clinical Section.—Fri., 5 p.m. (Cases at 4 p.m.)

Chelsea Clinical Society.—At South Kensington Hotel, Queen's Gate Terrace, *Tues.*, 7 p.m. Dinner meeting. Dr. R. Jarman: Modern Anaesthesia.

APPOINTMENTS

Addenbrooke's Hospital, Cambridge.—Honorary staff appointments: *Radiologist*, F. R. Berridge, M.B., D.M.R. *Surgeon to the Gynaecological and Obstetrical Departments*, Oswald Lloyd, M.D., F.R.C.S. *Physician*, Laurence Martin, M.D., M.R.C.P. *Surgeon*, B. M. Truscott, M.B.E., M.B., F.R.C.S. *Ophthalmic Surgeon*, G. F. Wright, M.B., D.O.M.S.

Bolton Royal Infirmary.—*Honorary Physicians*, A. Ingham, M.B., and H. Phillip Goldman, M.B., M.R.C.P.

Day, F. M., M.R.C.S., D.P.H., Medical Officer of Health, Metropolitan Borough of Hammersmith.

Edinburgh University.—D. M. Douglas, Ch.M., F.R.C.S., lecturer in experimental surgery, University of Edinburgh, deputy director, Wilkie Surgical Research Laboratory, and associate assistant surgeon, Royal Infirmary Edinburgh.

Royal Liverpool United Hospital.—Appointments to Honorary Medical and Surgical Staff at Liverpool Royal Infirmary: *Dental Surgeon*, G. Graham Macphee, M.D., L.D.S. *Assistant Physician for Tropical Diseases*, D. R. Seaton, M.B., D.T.M., D.P.H. *Radiologist*, P. H. Whitaker, M.D., D.M.R.E. *Dermatologist*, G. W. Bamber, M.D., F.R.C.P.

St. Thomas' Hospital, S.E.—Honorary appointments. *Obstetric Physician*, R. K. Bowes, M.D., M.S., F.R.C.S. *Orthopaedic Surgeon*, G. Perkins, M.Chir., F.R.C.S.

BIRTHS, MARRIAGES, AND DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

Cairns.—On July 12, 1946, at Kingston-on-Thames, to Theresa, wife of Dr. R. J. Cairns, a son—Andrew John.

Eardley.—On September 21, 1946, at 23, Keighley Road, Colne, Lancs., Catherine Vera, wife of A. W. R. Eardley, M.B., Ch.B.(Sheff., 1931), twin Alan Christopher Stenton and Catherine Rosalind.

Jacobs.—On September 22, 1946, at Hammersmith Hospital, to the wife of A. L. Jacobs (Dr. Lusia Frank), a daughter.

Orton.—On September 26, 1946, to Drs. Richard and Betty Orton, 30, Cornwallis Crescent, Clifton, Bristol, a daughter.

MARRIAGE

Edwards—Adams.—On September 17, 1946, at Stenhouse Church, Capt. Frank Edwards, A.D. Corps, of "Innervar," Larbert, Stirlingshire, to Capt. Sheila Adams, R.A.M.C., of Blackstown House, Broughane, Ballymena, N. Ireland.

DEATHS

Elliot.—On September 7, 1946, Henry P. Elliot, born 1871, M.B., C.M. 1894 Queensland ad eum grad. Practised mostly in Australia for 51 years.

Evans.—On September 26, 1946, at Oxford, Brenda, wife of Gordon Evans, M.B., B.S.